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THE FISHERIES SECTOR IN THE COUNTRIES OF AFRICA*

by

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CONTENTS

		Page
INTRODUCTION		1
I.	RESOURCES AND POTENTIAL	2
II.	ANALYSIS OF THE EXISTING SITUATION	4
1.	The catch levels	4
1-A.	At sea	4
1-B.	In inland waters	5
2.	Forms of operation	5
2-A.	Catches and the nature of the fishing fleets	5
2-B.	National fleets (see table 3)	7
3.	On-shore facilities	9
4.	Processing and packaging	10
4-A.	Enterprise structure	10
4-B.	The range of products	10
5.	Marketing and distribution	10
5-A.	Destination of products	10
5-B.	Distribution	11
6.	Institutional aspects	12
6-A.	Administration and planning	12
6-B.	International co-operation	13
6-C.	Institutions and fields of research	13
6-D.	Financial constraints	13
6-E.	Training and technical assistance	14
6-F.	Quality standards	14
III.	THE CONSTRAINTS	14
1.	Resources	14
2.	Technological constraints	15
2-A.	The industrial sector	15
2-B.	The small-scale sector	16
3.	Financial constraints	17
4.	Political constraints	17
5.	Institutional constraints	18
6.	Social constraints	19

Page

IV. THE PRIORITIES 20

1. Management of the exclusive economic zones 20
2. Food strategy 21
3. Foreign trade 21
4. Industrial policy 21
5. Employment 22
6. Technological choices 22
7. Need for a global strategy 23

7-A. At the national level 23
7-B. At the international level 24

LIST OF TABLES

1. Potentials and catches by groups of marine species in 1981
2. Aquatic potentials and productions in Africa, 1984
3. National means of catches in Africa
4. National production and foreign trades, 1985
5. Not available
6. Utilization of catches in Africa
7. Employment in fisheries in Africa
8. On-board handling, on-shore facilities
9. On-shore handling: cold
10. On-shore handling: other than cold
11. Nature of consumed products
12. Distribution
13. Administration, research and training in Africa in the fisheries sector

LIST OF FIGURES

1. Evolution of catches in the northern area of CECAF
2. Local and deep-sea catches - Centre-East Atlantic
3. Local and deep-sea catches - South-East Atlantic
4. Distribution areas of fish in Africa
5. Distribution according to sub-region of assistance for fisheries, catches potential in Africa and catches of developing countries in Africa

ANNEXES

1. Potentials and catches - Centre-East Atlantic, Mediterranea and Black Sea, South-East Atlantic, West-Indian Ocean (CECAF)
2. Fisheries and other agreements by African coastal countries
3. Relative importance of fish in food supply
4. CECAF imports of fish and fishery products
5. Assistance to fisheries in Africa

THE FISHERIES SECTOR IN THE COUNTRIES OF AFRICA

Introduction

1. Anyone claiming to have a precise knowledge of the volume of the fish catches in Africa and in the waters of that continent would have to be well informed indeed. Accuracy is no better than 50 per cent in most cases, and this includes the statistics prepared by the best teams of specialists, namely those of the United Nations Food and Agriculture Organization (FAO). What is true of the individual stocks cannot be less so when applied to the entire African continent. If caution is in order when working with marine catch statistics, one can imagine what the situation is like in the case of inland or "continental" fishing! For example, Zaire, with its immense river system, is alleged to have only 200 pirogues, less than Rwanda. For this reason, we would urge the reader not to regard the figures furnished in this report as having any definitive statistical value. They were carefully compiled on the basis of existing sources that were themselves very often the result of compilations, extrapolations and interpolations. One should not seek in these figures the proof of our arguments, but rather, possibly, the proof that we may be wrong: "unless the available data are sufficiently complete and accurate, the biologist finds himself facing the uncomfortable alternative of having either to engage in doubtful statistical operations and thus risk advising wrongly, or to give advice that is so imprecise as to be unusable" (Fisheries Circular, 1985, 3, FAO) 1/. What is true for the biologist is no less true for the economist.

2. The large numbers conceal national and local particularities. Africa is a continent of marked differences, a fact that global statistics can easily make one forget. This in itself would not be too serious if decisions applied locally were not all too often derived from overall assessments too sweeping to be locally relevant. By way of example, the concept of "pirogue" covers a great many realities. What, in fact, is there in common between the 25 metre-long Senegalese pirogue with its 25 tons or rotating seine capacity, the papyrus vessel of Lake Tchad, the rafts of the Sud swamp region in the Sudan, the primitive hollowed-out tree trunks found along the shores of South Cameroon and the fishing boats of the Mediterranean? Any attempt to merge these forms into a single concept is certain to obliterate the differences, and one should therefore be careful to infer no more than an overall view or general identification of the issues common to the entire continent or to groups of African countries.

3. An observer attempting to summarize what is already no more than a summary is struck by the following typical characteristics:

- Small-scale fishing operations, which dominate the continent in terms of production but occupy only a secondary position with respect to investments and foreign assistance;

- The decisive role of women in the "fisheries systems" of the continent;

- A considerable requirement for financing and, simultaneously, excess production capacities in specific localities;

1/ Translator's note: Retranslated from the authors' French translation of the original.

- Genuine attention to exports along with national marketing systems that must rely largely on their own resources;

- Considerable natural resources coupled with nearly insurmountable material and human deficiencies;

- A very uneven distribution of resources, assets and handicaps: the countries with the abundant resources are not those with the large populations.

Thus, we find ourselves facing a highly contrasted situation in describing which all generalizations are to be distrusted.

I. RESOURCES AND POTENTIAL

4. The term "potential" is taken to refer to the volume of biomass that may be exploited at the maximum level of balanced production (maximum sustained yield), i.e., the catch volume to which it is possible to subject a stock, in a given unit of time, without endangering its ability to regenerate itself. The notion of catch (or "take") refers to the quantities actually taken, while the quantity unloaded on land (discharged) is that part of the catch that is actually retained, the rest having been thrown back into the sea (or "rejected"). In any case, there is a constant element of ambiguity in the existing statistics, and what are called "catches" are in effect quantities unloaded. A stock may be overexploited when the catch level is equivalent to 40 per cent of the potential; this occurs when a fisheries operation is undertaken on too large a scale and the maximum sustaining yield (MSY) is surpassed: production increases with the fishing effort up to the MSY, and decreases when the fishing effort increases beyond the MSY.

5. With rare exceptions, African marine resources are everywhere either fully exploited or overexploited. The total potential is in the order of 10 million tons. The total marine catch unloaded by the different nations amounts to about 2.5 million tons, to which must be added foreign hauls in the order of 3.2 million tons, representing a global rate of apparent exploitation of close to 60 per cent. A rate of this kind, however, is only of illustrative value, since the exploitation level must be examined on a species-by-species basis or, lacking that, according to large species groups, and taking into account the rejected catch thrown back into the sea by the deep-sea fleets: approximately 40 per cent of the trawler catch and 70 to 90 per cent of the shrimper catch.

6. The data for the potential of the individual species groups are given in table 1, which must be used with all the necessary reservations: not only are these data imprecise, but, what is more, it is extremely hazardous to distinguish what is specific to Africa in the Western Indian Ocean and in the Mediterranean. According to the Atlas of Biological Sea Resources /FAO 591-9 (86)2/, the potential, in tons, is as follows:

	Pelagic	Demersal	Crustacea	Cephalopods
Eastern Central Atlantic				
North of the Gulf of Guinea	2,500,000	450,000	30,000	200,000
South of the Gulf of Guinea		75,000		?
South-Eastern Atlantic	2,500,000	1,200,000	50,000	?
African Indian Ocean	4,600,000	665,000	80,000	?
Total	9,600,000	2,390,000	160,000	?

These figures would yield a total potential of between 12.5 million and 13 million tons. We should note that the figures include South Africa, for which we were unable to obtain precise data, as well as Namibia.

7. The inland waters are almost all underexploited. The continent's total potential is in the order of 3.5 million tons as against catches of some 1,450,000 tons for a global exploitation rate of 41 per cent. The scale of fishing varies greatly from one region to another and from one country to another (see below).

8. The differences in exploitation are due, inter alia, to the following factors:

- The natural environment: difficulties in transporting the fish and the remoteness of the consumption zones;

- Lack of road and storage infrastructure;

- Problems in the supply of fishing gear;

- Social factors: unattractiveness of fish as a food to certain population groups;

- Political factors associated with warfare or the unreliability of communications.

9. The inland fish resource potential has been seriously affected by the prolonged drought, which has resulted in a general lowering in the water levels of the streams and lakes, with the latter losing a substantial part of their surface (especially Lake Chad). Nevertheless, the productivity of the Sahelian waters is such that the return of the rains should bring about a rapid recovery. It is precisely these environmental changes that have resulted in the presence of Malian fishermen in the lagoons of Côte d'Ivoire and are responsible for the large-scale departure of Senegal River fishermen towards the Casamance. In the estuaries, such as that of the Saloum River in Senegal, climatic changes have led the local communities to depend more and more on fishing and increasingly less on agriculture living as they do in an island system where there is not even enough water to allow the population to remain in the area outside of the rainy season.

10. The many hydro-agricultural and hydro-electrical development projects that have been carried out in Africa - dams on the Senegal and Volta; rice-growing schemes in North Cameroon; the Kandadji, Sélingué, Tossaye and

Lambezanga dams on the Niger; the Bandama Dam in Côte d'Ivoire or the Asswan Dam in Egypt - have had or will have a major impact on fishing: a reduction in the quantities available downstream coupled with an increase upstream, the substitution of lake for river species in the reservoirs, the establishment of new fisheries, and the migration of populations.

II. ANALYSIS OF THE EXISTING SITUATION

1. The catch levels

1-A. At sea

11. All the stocks currently being caught at sea are fully exploited or overexploited (see annex 1 and figure 1).

Demersal

Eastern Central Atlantic: overexploited
South-Eastern Atlantic: fully exploited
Indian Ocean: moderate to heavy exploitation

Pelagic

Eastern Central Atlantic: stocks fully exploited in the North; moderately exploited in the Congo and Zaire; extensive triggerfish biomass
South-Eastern Atlantic: moderately exploited in Angola (sardines); other species fully exploited or overexploited
Indian Ocean: underexploited

Cephalopods

Eastern Central Atlantic: overexploited
South-Eastern Atlantic: ?
Indian Ocean: ?

Crustacea

Eastern Central Atlantic: fully exploited
South-Eastern Atlantic: ?
Indian Ocean: overexploited

12. These general data suggest four observations:

- When considered globally, a reference to full or overexploitation masks a diversity of local situations. Coastal resources appear large in Guinea; there is little information on the catches in Angola and Namibia; there are sizable and underfished resources on the Casamance plateau. These are only a few examples.

- Few species are commercially fished on a large scale. The number of such species is genuinely large only in the case of the small-scale fisheries.

- The exploitation of the pelagic species involves the question of the fluctuations in these stocks. The abundance of the small coastal pelagic varieties depends to a very large degree on environmental conditions. Everyone remembers the precipitious decline in the anchovy stocks off Peru; the sharp drop in the presence of sardines in the Gulf of Guinea was accompanied by the appearance of a very large triggerfish biomass; the stocks of pelagic species off Morocco also exhibit a very high degree of variability. This circumstance has serious implications for investment policy in respect of the fishing and processing of the pelagic species, involving the risk that the fleets and processing facilities may be planned and designed on too large a scale.

- A stock may be overfished even when the yield represents only one-third of its potential. This means that the fishing operation is on too large a scale. It also means, remaining with the same example, that 70 per cent of the potential has been squandered. Finally, it means that by controlling the scale of the fishing effort it should be, over time, to reconstitute most of this source of income, which has been run down through overfishing.

1-B. In inland waters

13. Five countries of the Great Lakes Region - Malawi, Uganda, Tanzania, Zaire and Zambia - together account for a fisheries potential of 1.2 million tons or 35 per cent of the African inland potential. With a production value of close to 783,000 tons, these countries are responsible for 54 per cent of the production of the African continent.

14. Resources are overexploited in Kenya and Uganda; they are fully exploited, allowing for statistical reservations, in the Great Lakes Region, in West Africa and in Egypt; they are underexploited elsewhere, specifically in Zaire, Angola and the Sudan.

15. Aquaculture is still in its embryonic stages in all of Africa. The possibilities would appear to be extensive and the projects numerous, costly and varied: industrial-scale projects (macrobrachium shrimp), pond fish-farming as a parallel activity to agriculture, etc. For the moment, production remains only nominal, except for Nigeria (22,000 tons), if the statistics are to be believed (see table 2 and Balarin 1984).

2. Forms of operation

2-A. Catches and the nature of the fishing fleets

16. Foreign deep-sea fleets

These foreign deep-sea fishing units have not been precisely counted. They are not based in the coastal countries, with which, in principle, they have concluded fishing agreements. In 1981, from Gibraltar to the Congo, the figures for these catches were as follows:

USSR	950,000 tons	
Spain	430,000 tons	
German Democratic Republic	87,000 tons	
Korea	80,000 tons	
Poland	78,000 tons	
Romania	77,000 tons	
France	65,000 tons	
Bulgaria	50,000 tons	
Italy	30,000 tons	
Japan	28,000 tons	
Greece	20,000 tons	
Total	1,895,000 tons	or 58 per cent of the total catch

During that same year of 1981, national catches in the same zone were as follows:

Morocco	380,000 tons	
Nigeria	300,000 tons	(?)
Senegal	240,000 tons	
Ghana	200,000 tons	
Others	290,000 tons	
Total	1,410,000 tons	or 42 per cent of the total catch

/Sources: Moal and Woitelier, 1984, and FAO Fisheries Circular (1985)./

For the entire Atlantic coast, local and deep-sea catches have evolved as follows:

Table 5. Deep-sea and local catches on the Atlantic coast (Source: FAO)

	1970-74	1975-79	1980	1981	1982	1983
Catches in the Eastern Central Atlantic (1,000 tons)	3,079	3,377	3,432	3,238	3,026	2,812
Deep-sea (%)	62.8	62.4	62.6	57.3	56.2	51.1
Local (%)	37.2	37.6	37.4	47.2	43.8	48.9
Catches in the South-Eastern Atlantic (1,000 tons)	2,750	2,750	2,170	2,029	2,359	2,348
Deep-sea (%)	37.8	55.9	57.3	58.9	60.9	55.8
Local (%)	62.2	44.1	42.7	1.1	39.1	44.2

17. The total catches remain more or less stable over time, while the long-range deep-sea fleets have substantially reduced the level of their activities off the African coast as a result of the general increase in production costs. The fall in the price of crude oil could reinvigorate these activities.

2-B. National fleets and processing enterprises (see tables 3, 8, 9 and 10)

18. A problem of definition arises when studying the national fleets. A pirogue may be larger and even more productive than certain units classified as "semi-industrial" or "industrial". In the interests of clarity, we shall reserve the term "small-scale" for the pirogues and smaller boats. The latter may be decked (Ghana) or undecked, and powered by oar, sail, outboard motor or diesel. The other units will be identified according to a classification based on the principal kind of gear used.

19. There are thought to be around 185,000 pirogues in Africa. These figures should be approached with more than a little caution because of the excessively high count reported by countries like Nigeria, but also for the reason that any vessel, whether used for fishing or not, may be included in the count. The gaps in the statistical information are even greater in the area of pirogue fishing than in the others, given the difficulty of monitoring these crafts whose locations are constantly changing within an operational area covering a large number of widely scattered landing sites.

20. In the CECAF 1/ zone alone, and considering only the coastal countries with the exception of Morocco and Nigeria, 68 per cent of the national marine catches unloaded, or 389,200 tons of the total of 573,200 tons brought ashore, are accounted for by the "traditional" fishing units. FAO's country profiles rarely distinguish between small-scale independent production and the other forms; the data for the non-CECAF countries are too inaccurate for this kind of estimate. Nevertheless, table 3 suggests that the share of national production accounted for by the small-scale fisheries sector is even higher in the rest of the continent than in the CECAF zone, as national industrial-scale units are less common in these countries. The small-scale fisheries thus play a key role in the national volumes of sea fish brought ashore in Africa.

21. In the inland waters, fishing activities are everywhere of an entirely small-scale, independent nature, except in the Great Lakes Region, where some 30 seiners and/or trawlers are in operation (Lakes Nyassa and Victoria).

22. The national industrial and semi-industrial fleets include vessels that are based in the country and unload there. The count thus covers the national units and the units operating within the framework of joint ventures and also vessels that have been chartered. There is very little information on the actual situation, and the changes from one year to the next are substantial. Table 3 refers to 1983 and is based on those figures that we were able to obtain. Because of the unreliability of the data, no totals have been calculated. There would appear to be a minimum of 1,550 trawlers, 110 tuna boats, 1,650 small trawlers, 420 sardine boats and 630 "miscellaneous" vessels (generally multi-purpose units). These classifications, based as they are on the principal fishing technique employed, conceals major differences in the size of the craft and their suitability for more than one application. For example, Ghanian seiners operate simultaneously as trawlers; the same multi-purpose element exists in Egypt and in the Mediterranean. The bulk of the national industrial and semi-industrial fleets is found in West Africa (Nigeria, Côte d'Ivoire, Ghana, Senegal, Mauritania and Morocco, and also in Egypt and Tunisia), if one disregards South Africa. In the industrial and

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1/ CECAF: Fisheries Committee for the Eastern Central Atlantic.

semi-industrial area, wars and dissaray at the administrative level have had their effect on the fisheries situation in Angola.

23. Generally speaking, the industrial and semi-industrial units are old - from 15 to more than 25 years - and originate in large, but unquantifiable measure from the second-hand market of the European countries. The fishing techniques employed are very diverse and have come to involve the use of synthetic fibres and large draw-nets. Less than 200 national vessels are equipped with on-board freezing facilities; some 700 trawlers are able to produce ice, while the remainder, i.e. two-thirds, take on their ice.

24. The forms of ownership are varied and are in a process of change. In the case of small-scale fishing operations, the norm is individual ownership or collective ownership when beach seines or, along rivers, large nets are involved. One can observe a number of facts that deserve greater statistical attention:

- Very many fishing units are presumed to belong to the fishermen, but in fact belong to their wives, who often act as middlemen in the fish trade;

- In West Africa, and specifically in Senegal, enterprises are being established under the ownership of wholesale fishmongers (elsewhere of Government officials or merchants as well), which may operate as many as 15 rotating seine units, producing, in the case of Senegal, yields of 8,000 to 9,000 tons and employing 300 to 400 persons. This circumstance should draw our attention to the fact, of great relevance to any development strategy, that the importance of an enterprise is not to be judged by the size of its vessels or the supposed degree of modernity of its installations, but by its productivity, the wealth it generates and the profits it realizes.

25. In the industrial fisheries sector, the assets are usually privately owned, with the majority of the capital in the hands of nationals. This follows the repeated failure of numerous attempts to establish national companies. Such companies do, however, continue to exist in at least the following countries:

- Tunisia (Office national des pêches): 50 trawlers and three seiners accounting for 13 per cent of national production;

- Mozambique (EMOPESCA): 27 freezer trawlers (shrimpers);

- Libya (Libyan Fish Company) operates some ten small units and all the on-shore processing plants;

- Benin (SONAPECHE): two trawlers;

- Cape Verde (INTERBASE): three 39-metre seiners converted into small trawlers;

- Ghana (State Fisheries Corporation): ?

- Angola;

- Guinea (SOGUIPECHE): six 40-metre refrigeration trawlers (?).

These enterprises are experiencing all kinds of difficulties, and the African continent-wide trend is towards the promotion of joint industrial ventures, which provide an assurance of technology transfers, access to external markets and manpower training.

- Sierra Leone.

26. Many countries have entered into joint ventures with foreign companies. A list, prepared by J. Carroz and M. Savini, is reproduced in annex 2, but we are unaware of the exact number. It should be noted that these joint ventures, which are being established in increasing number, are very diverse in nature, ranging from the symbolic letter box to extensive co-operation arrangements, including the chartering of foreign vessels, whereby these chartering schemes permit these associations to avoid the payment of fishing duties for the reason that the product of the operations is regarded as a "national" one. Joint ventures of this kind may cover all or a part of the sector: fishing alone; fishing and processing; and, less frequently, fishing, processing and marketing.

27. The rejected catch is large and there is little reliable information on the subject. For the industrial-scale fisheries, it represents at least 40 per cent of the volume unloaded by the trawlers and between 70 and 85 per cent of the shrimper catch, depending on the area. In independent, small-scale fishing activities, the rejection rate is far lower, in the order of 10 to 15 per cent, and is in any case of secondary importance in comparison with the losses suffered due to the lack of on-board preservation facilities.

3. On-shore facilities

28. Apart from Morocco, the majority of the African countries have one principal port and at best one or two secondary ports. The processing industries and the storage installations are concentrated in the principal port along with the administrative and telecommunications facilities. These ports are transit points for imported and/or exported sea products.

29. Since these ports are usually the principal cities of the coastal countries, they also offer a concentration of communications facilities not found in the interior of the continent or, apart from these ports, along the coast. This communications infrastructure was built for, and is used by, the industrial and semi-industrial fleets for the support of the export trade and the processing enterprises, which are most often export-oriented. Apart from Morocco, Senegal, Côte d'Ivoire and Cameroon, all the Atlantic coast countries appear to lack sufficient port capacity, although we are unable to say whether this inadequacy is of a general nature (goods traffic) or whether the fisheries alone are affected. In many countries, the facilities are old and indeed obsolete. This is no obstacle to the existence of surplus capacity, brought about by the construction of over-sized refrigeration facilities, as in the Cape Verde islands, or of unused ports, like the port of Saint-Louis in Senegal. All along the African Atlantic coast one can see vestiges of simple wharfs, which, had they been maintained, could have provided the basis for a network of landing points to serve modern small-scale fishing units incapable of being drawn up onto the beach.

30. The bulk of small-scale production is not handled in this way, but is brought ashore at a large number of landing points, most without on-shore installations (see table 8), except in the Mediterranean and South Africa. In Senegal, the Senegalese Small-Scale Fisheries Assistance Centre (CAPAS), financed by Canada, has attempted to organize marketing co-operatives built around modern Fishmongering Centres with storage, refrigeration and transport facilities. Three such centres have been built, with results that have not always met expectations. This idea of modern fishmongering centres is also being implemented in other West African countries, along with the concept of "small-scale fisheries centres" featuring a full range of infrastructure

facilities. In our opinion, however, the overall approach to the development of small-scale fisheries needs to be re-examined (see "Constraints" and "Priorities" below).

4. Processing and packaging

4-A. Enterprise structure

31. We have noted above that the enterprises are either private (with nationals of the country contributing the majority of the capital) or public, and that they are engaged in fishery fleet activities. We have been unable to find any official listing of enterprises on the basis of which a coherent table might be presented. The available information is given in tables 8, 9 and 10.

32. One of the tasks of the conference might be to enlist the competence and expertise of the participants for the purpose of completing these tables.

33. Not only is the information on the enterprises fragmentary, but in addition it is very difficult, even when such information is available, to compare theoretical capacities (freezing, storage, etc.) and real production.

34. It is equally difficult to form an idea of the state of the facilities, particularly in the environmental conditions in which they exist.

4-B. The range of products

35. In general terms, the industrial-scale production, which is essentially export-oriented, is involved in freezing, canning and the manufacture of fish meal and oil. To a lesser degree, production involves dried, salted and smoked products, but small-scale processing predominates in this product area (table 6).

36. Independant, non-industrial production exists on a large scale in the West African countries. In Senegal, it accounts for 80,000 tons, distributed between braising, fermentation and drying, with a small smoking component. In Ghana, Sierra Leone and Côte d'Ivoire, smoking is the most important of the processing forms. Everywhere else in Africa, smoking and drying are the dominant modes of processing. Smoking poses a problem with regard to energy because of the major consumption of wood that it entails. In all of West and Central Africa, small-scale processing is the work of women. It would seem, although we have not been able to verify the point, that this is also true in the Great Lake Region, but with a more important role for men.

5. Marketing and distribution

5-A. Destination of products

37. The role of fish in the daily diet varies greatly from one country to another and, within the same country, from one region to another. In Senegal, fish consumption amounts to 45 kg per inhabitant on the coast and 7 kg per person in Eastern Senegal. The consumption of fish at the national level fluctuates between more than 40 kg/year in Senegal and Ghana to 0.3 kg/year in Ethiopia and Somalia (see annex 3). In terms of the apparent consumption of aquatic products (i.e., production plus imports minus exports), the differences are very substantial from one country to another, as indicated in table 4.

38. Keeping in mind this great diversity of situations, it is interesting to examine the evolution of continental foreign trade expressed in millions of United States dollars (source: FAO FII/0782 SUPPL):

	1982	1983	1984
Exports	617	719	692
Imports	1,168	892	674

In continental terms, Africa would appear to have put an end to its passive trade balance situation in 1984; however, this evolution reflects the consequences of the economic crisis gripping the continent and the general decline in income and consumption, rather than a recovery in the foreign trade area.

39. The CECAF zone, which is a major producer of fish and has been relatively less affected by the famine, also suffers from a negative external balance of payments, whereby Nigeria and Côte d'Ivoire account for much of this deficit (see table 4 and annex 4). The striking fact is that the CECAF zones exports 87 million dollars' worth of products to the developed countries, importing from these same countries 131 million dollars' worth of sea products, of which a sizable portion originate in the waters of the zone itself (figures for 1980). The "South-South" trade among the countries of the zone amounted, during the year in question, to 28 million dollars' worth of imports and 31 million dollars' worth of exports, a statistic that clearly indicates the relative importance of North-South and South-South trade. It is customary to credit the fisheries sector with an improvement in the diet of the local populations; one may wonder, however, whether, given the current state of the world market, the development of the fisheries is not in fact primarily contributing to an improvement in diet in the developed countries, particularly when, in addition, a number of countries are subsidizing their exports.

5-B. Distribution

40. Many countries, among them Guinea Bissau, Guinea, Angola, Burundi and Tanzania, have established a system of State-set prices, with three generally observed consequences: discouragement of the producers, enrichment of the middlemen through the emergence of a parallel market, and the availability of less fish to the public.

41. In most cases, the market is free and the prices fluctuate within a wide range, which is however limited by the income level available for food consumption. An in-depth study being prepared in Senegal on that country's fish product market should soon lead to a better understanding of the economic mechanisms at work in the setting of prices.

42. On the import side, the fish prices are outside the control of the national States, particularly for the pelagic varieties, for which the rates are set by the USSR, the principal fishing country and the main supplier of the Atlantic coast countries.

43. The distribution of fish in the interior depends primarily on the degree to which the communication system has been developed. It is fair to say, however, that in West Africa fish travel very far while in East Africa the same products are transported only over short distances.

44. Fresh fish is distributed outside the production zones only in those countries where at least the beginnings of a cold chain exist: Tunisia, Morocco, Algeria (?), Senegal, Côte d'Ivoire, Nigeria (?), Cameroon, Gabon, and Egypt (?). Everywhere else fresh fish is consumed in the production zones and processed (mainly salted and dried) outside these zones. In Côte d'Ivoire, fish imported in frozen form is subsequently smoked by women before being marketed in this form within the interior of the country. Figure 4 indicates the areas covered by the various types of products.

45. Everywhere women occupy a pre-eminent position in fish marketing, but particularly from Guinea to the Congo. Any project involving the small-scale processing and distribution of fish necessarily involves a major role on the part of women.

46. The technological problems encountered at the processing and distribution stages involve:

- The losses caused by insects at all stages in the process;
- The crumbling of the product during storage and transport.

However, as far as the processing as such is concerned, there is very little to be hoped for from technology: the preparations have been mastered by the processors and adapted to the tastes of their customers. Losses due to packaging, storage and transport are believed to range between 20 and 60 per cent according to the locality and the type of product.

47. Quality is one of the areas of technological innovation that should be promoted. In so doing, however, one must not lose sight of the fact that the notion of quality is fundamentally a relative one, specific to each culture.

6. Institutional aspects

6-A. Administration and planning

48. In a large majority of the countries the fisheries are under the administration of a ministerial directorate. Most often, the marine and inland fisheries sectors are administratively subordinate to different authorities (see table 10).

49. The fisheries are taken into account in national planning, but only, in most cases, in the form of a catalogue of projects designed to pursue vaguely formulated objectives ("to increase income and prosperity", "to improve diets", etc.), with no serious analysis or projections.

50. For statistical information, one must rely on the official agencies. The existence of the Fishery Committee for the Eastern Central Atlantic (CECAF) has probably done much to develop an awareness of the importance of statistics, but their quality depends largely on the material and human resources of the agencies concerned, as well as, occasionally, on political considerations (a tendency to exaggerate fish catch figures out of a concern for the country's image abroad and in the hope of attracting investments). Statistics of an economic nature are woefully inadequate, particularly with regard to the small-scale fisheries sector.

6-B. International co-operation

51. International co-operation is still largely dominated by the North-South axis and, within the latter, by bilateral aid (see table 15). The former colonial powers (France and Great Britain) are the most important actors. More than 20 development agencies or organizations are active in the CECAF zone alone, in an environment of growing competition and on a more or less co-ordinated basis (see "Constraints" below). Table 15 is worth while studying for its portrayal of the "paradigm" in the fisheries development aid area. Aquaculture receives more aid than the small-scale fisheries sector, as indeed do the industrial-scale fisheries. This is a reflection of the real ordering of values behind all the discussions. But there is more. Every fisheries specialist knows, or should know, that, since the resources are limited, there is an imperative need to stress the valorization of the catches. But this is exactly the opposite of what appears to be happening. If we compare the aid channeled to valorization (marketing plus processing plus ice plants) with the aid going to production (small-scale fisheries plus industrial-scale fisheries plus aquaculture), we find a decreasing ratio: 13.75 per cent in 1981, 11 per cent in 1982, 10 per cent in 1983 (see figures 5 and 6). Of the total assistance allocated to fisheries, the small-scale sector received 49 per cent in 1981, 43 per cent in 1982 and 45 per cent in 1983.

6-C. Institutions and fields of research

52. There are research programmes in a large number of countries (see table 13). In most cases, this research is embryonic and conducted by the fishery services, where it is essentially limited to statistical monitoring. Only a few countries operate high-level and multidisciplinary research centres: the Mediterranean countries, Morocco, Mauritania, Senegal, Sierra Leone, Ghana, Côte d'Ivoire, Nigeria, the Congo, Kenya, Madagascar and, perhaps, Tanzania. In Zaire there is a dispersed research effort carried out by that country's universities.

53. The research areas include fish biology, fishing gear technology, less frequently diet, and, in exceptional cases, economic aspects.

6-D. Financial constraints

54. The lack of financial resources is real and substantial. We were unable to find any satisfactory estimates on this point, but on the basis of experience we should like to suggest the following thoughts:

- The lack of operating resources is even a more crucial factor than the lack of investment: it is sometimes possible to have a boat, but it is more difficult to find the funds for operating and maintaining it;

- Operational inadequacy at the administrative level is in many countries causing problems with respect to the capacity to absorb financing;

- The financing requirements are unevenly distributed among the countries and according to the types of activity involved (small-scale fisheries, industrial-scale fisheries, valorization).

6-E. Training and technical assistance

55. Table 14 makes it clear that in a fair number of countries there is provision for training at the elementary level, more usually through development projects than through specialized schools. Advanced training is available in less than ten countries. Moreover, this is training in fishing techniques rather than in product processing or marketing. As a whole, the African continent is heavily dependent on foreign assistance in this area.

6-F. Quality standards

56. Table 12 shows that only some 20 countries have quality standards. As far as export is concerned, this is perhaps a deficiency, but with respect to local marketing it is not at all certain that it represents a handicap, so variable are the social conditions. It would be well, in this area, to observe certain health standards, for example the banning of a number of insecticides used in small-scale processing: lindane, baygon, and DDT. A vast research effort on the subject of "quality and society" remains to be undertaken.

III. THE CONSTRAINTS

1. Resources

57. The majority of the high-sea stocks are either fully exploited or overexploited; the few underexploited species are the flying fish, the tunnies (bluefin tunny), the squid and the triggerfish. The total African catches have reached their ceiling and there is no expectation of any significant increase at the regional continental level, even if there is some room for hope locally. The abundance of the pelagic species, which account for three-fourths of the total marine halieutic potential, is subject to severe fluctuations that contribute to the operation of the following "vicious circle":

- A decision to invest following the observation of increasing yields;

- Operational investments when the yields begin to fall, whereby this trend is strengthened by the fishing effort;

- The presence of oversized and underutilized enterprises;

- The initiation of a process of disinvestment.

This process can be observed in all the coastal countries of Africa: crisis with regard to the pelagic species off Ghana; decline in the number of small round sardines (sardinella aurita); critical situation with respect to anchovies in the waters of Southern Africa; general underutilization of processing capacities.

58. The demersal stocks are all subject to either overexploitation or full exploitation, as well as the cephalopods and the crustaceans.

59. Given that there can be no expectation of a significant rise in current catch levels, and in order to respond to the foreseeable increase in demand in the years ahead, one of the few possibilities for stepping up the volume of fish unloaded lies in the use of species that are today being rejected.

60. More than half of the fish catches at sea are taken by foreign fleets, most often within the framework of fishing agreements. These foreign fleets are contributing to the supply of the African fish-importing countries. The constraints on the growth of the national fleets are, therefore, less a question of fish resources than of:

- Financial resources;
- On-shore infrastructure;
- Accessibility of export markets.

These constraints are particularly evident when foreign fleets, because of the size of their catches and the economic system of the country of origin, are in a position to set the prices for certain species, thereby limiting the opportunities for the expansion of the national fleets and their export capacity. For example, the prices for the small pelagic species are set by the USSR at a level that renders non-competitive the exports of countries like Senegal to the importing nations of the Gulf of Guinea (specifically Nigeria and Côte d'Ivoire).

61. The CECAF zone, the largest production zone, exports 87 million United States dollars' worth of products to the developed countries, from which it imports 131.2 million dollars' worth of marine products, much of which was caught within the CECAF zone (see Robinson and Crispoldi, 1984).

62. At the national level, there is the problem of competition between small-scale fishermen and the industrial or semi-industrial units for access to resources. The modalities of this access are or are not established in ways that differ very greatly from one country to the other.

63. We should like to suggest the following conclusion: While the existence of fish resources is a necessary condition for the fisheries sector, it is clearly not a sufficient condition for the growth of that sector.

64. The inland waters are a major potential source for the development of fisheries and aquaculture. However, the conclusion presented above appears as applicable to inland fishing as it does to the marine fisheries sector. The constraint is less one of resources than of the equipment for fishing, the remoteness of the consumer centres, storage and transport facilities, and price systems. The shared resource constraint remains valid, as demonstrated by the disarray of a number of fisheries brought about by the premature disruption of the customary (and non-"traditional") systems of resource management.

2. The technological constraints

Technological constraints do not have the same weight in industrial- and small-scale fisheries.

2-A. The industrial sector

65. It is generally agreed that the transfer of technology is a key factor in development. We dispute the validity of this idea. The environment is absolutely indispensable to the success of technology transfers. An example of this may be seen in Senegal in the case of CAPAS 1/, whose very modern

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1/ CAPAS - Centre d'assistance à la pêche artisanale du Sénégal (Centre for Assistance to the Small-Scale Fisheries Sector of Senegal).

fishmongering infrastructures were not geared either to the existing system of independent small-scale marketing, or to the quality standards prevailing in the country, or to the nature of the social production relationships in the small-scale fisheries sector. The result was a confirmation of the addage that "the best" may be an enemy of the "good". Senegal has had the same experience with SOSAP, the national fishing company whose fleet, because of the diversity of its origins, was confronted with intractable maintenance problems (unlocatable spare parts, non-standard motors, etc.). Angola appears today to be facing the same difficulties as Senegal before it. Finally, the port of Saint-Louis with its 70,000 tons of idle capacity or - to cite another example - the network of underutilized cold storage warehouses in the interior of the country make it quite clear that the mere presence of technology is not enough to spark off an upturn in activities.

66. It should not be inferred from these remarks that technology is of no importance, but simply that the technological choices must flow from the contexts in which they are made.

67. The major technological constraints in the industrial fisheries area would seem to us to be the following:

- Maintenance;
- Product quality;
- Infrastructure (communications, water, electricity, etc.);
- Scale of the installations (hence reliable statistics given that statistical overestimates lead to excessive investments);
- Better approach to costs (and specifically to recurrent costs).

2-B. The small-scale sector

68. The question of the fishing vessels would appear to be secondary. The pirogues are capable of local evolution. For those countries in which the problem of vessels is real (Cameroon, Gabon, and the Congo on the Atlantic), South-South co-operation should be preferred to North-South transfers. An examination of the many and varied projects for the replacement or improvement of the pirogues demonstrates the validity of this proposition.

69. Since there is no way of increasing the resources available, projects aimed at improving the valorization of the products should take precedence over projects aimed at increasing production. At this point, the following would appear to be the major constraints:

- On-board preservation of the fish;
- Motor maintenance;
- Minimal on-shore infrastructure;
- Product transport.

70. With respect to small-scale processing, the technological constraints do not affect the production stage. The only problem to the solution of which technological research can contribute at the production stage is that of fuel savings. The principal constraints appear to us to be the following:

- Preservation in the face of insects;
- Product packaging;
- Storage;
- Transport.

71. The distribution of fresh and processed products poses a number of simple technological problems that can be solved by making modifications in the facilities used. Fresh products are rarely transported in refrigerator trucks. At the markets, these products are most often stored in old refrigerators unconnected to the electrical system and used as ice boxes. These problems can be solved more easily by easing the conditions for the granting of loans with which to purchase equipment than through technological progress. In the area of inland fishing, an original solution that has been observed in the Congo might perhaps be applicable elsewhere: away from their bases, at the fishing camps, the fishermen have at their disposal petroleum- fueled freezers in which to store the fish before it is sent to the city by river.

3. Financial constraints

72. We have found no estimate of the financial requirements of the African countries, but the financial constraints are very real. However, they cannot be evaluated independently of:

- The management options for the exclusive economic zone (promotion of mixed companies);
- The methods for the evaluation of the nature and volume of the investments;
- The local economic context.

73. One finds in effect that while major financing requirements do exist, many investments are underutilized or even inoperative. The general situation is as though the financing operations rested on the notion that productive investment is sufficient by itself to generate a context conducive to the efficiency of that investment. An example will illustrate this point: fishery assistance frequently takes the form of vessels or motors, but there is no maintenance network capable of ensuring the kind of conditions that will allow this equipment to perform efficiently. A motor in Senegal is amortized in four to six months; it is not unusual for it to remain idle for three months due to a lack of spare parts. Conversely, the existence of a properly structured maintenance network is capable of encouraging investment. Assistance projects frequently involve heavy equipment whose recurrent costs are a heavy burden. The local authorities often tend to reason as follows: "An investment that is useless for the time being is better than no investment at all". This is an expensive line of reasoning.

74. Without question, the evaluation of the financial constraints cannot be separated from the existence of a coherent industrial and sectoral policy.

4. Political constraints

75. The African countries are not all in the same position with respect to their capacity to negotiate fishery agreements with foreign States. Not only resources, but also administrative skills and scientific assets are unequally distributed. Senegal or Morocco have a different "weight" than Guinea Bissau or Sao Tome-et-Principe in the negotiation of agreements in this area.

76. Regional co-operation, an indispensable condition for the effective management of fish resources as well as for gaining the greatest possible advantage from the exclusive economic zones through fishery agreements, is still in its embryonic stage and is too often marred by national sensitivities

and distrust. Through its regional projects, FAO has done much to promote this kind of regional co-operation.

77. Numerous countries are experiencing or have experienced warfare or serious political crises or have seen their economies thrown into disarray. Guinea Bissau, Equatorial Guinea, Angola, Mozambique and Zimbabwe have not yet emerged from their struggles for independence; Guinea, Liberia and Ghana are still facing difficulties; Southern Africa as well as Chad, the Sudan, Uganda and Ethiopia are living through difficult political times.

78. The idea that investments are capable of generating the conditions required for their effectiveness has led the majority of the States to establish national fishery companies in the belief that these companies would provide the basis for the building of a fisheries sector. This approach has generally been unsuccessful.

79. In many countries there is a system of State-set prices. As generally described, the result is a two-fold one: discouragement on the part of the producers, for whom the price provides no incentive to invest, and enrichment of the middlemen as a result of the emergence of a parallel market. When the prices are not set by the State, massive imports of low-price fish exert an equivalent distorting effect.

5. Institutional constraints

80. The institutions responsible for the fisheries sector are directed by fisheries biologists, veterinary doctors in the francophone countries, who do not necessarily have the training for the economic management of a business sector. The lack of economic and financial analysts is painfully felt in the majority of the African countries at a time when, more than ever, the economic limitations outweigh in importance the biological constraints. Management of the exclusive economic zones is primarily a question of fleet management, an area in which the stocks operate more as limiting factors than as objectives.

81. The lack of economic competence has profound implications for the management of the fisheries sector, whether with respect to the analysis of development projects, the negotiation of fisheries agreements, the evaluation of joint ventures or the planning of investments. The Soviet fishing fleet has undertaken to unload a percentage of its catch in Angola, but since the composition of these discharges is not specified, they may consist solely of species customarily rejected by the fleet. Mauritania, wishing to dissuade foreign vessels from infringing the limits of its exclusive economic zone, imposed fines in amounts equal to or greater than the value of the ships. The result was soon to be seen in the port of Nouadhibou, choked with wrecks. Any marine products specialist has been able to observe very large cold storage facilities standing half-empty or others containing goods occasionally as much as a year old. These are only three examples of an extremely widespread lack of basic economic competence.

82. Development projects are welcomed far more on the basis of what they contribute than because of any examination of what they may leave behind once they have run their course. The project is perceived as a gift, and its depreciation and recurrent costs are not taken into account. Once the project has arrived at the end of its timetable, fresh assistance will have to be requested, something that may not have been inevitable at the outset of the project. The assistance, in this case, leads to a heightened dependency.

83. In all but a few countries, the fisheries sector is subordinate to the Ministry of Agriculture or the Ministry of Water Resources and Forests. On the one hand, in the countries in question, the fisheries sector, although occasionally a large one, will be of secondary importance in relation to agriculture; on the other, the specific features of this sector, with its renewable resources, mobile stocks and the resultant problems - overinvestment, squandering of the revenue, sharing of the resources, etc. - will be all the better understood to the degree that the management of the fisheries is accorded individual status within the ministerial structure under which it falls.

84. The African fisheries administrations have at their disposal limited financial and human resources. Accordingly, it is difficult for them to ensure effective monitoring of fishery activities. As far as the industrial or semi-industrial units are concerned, which unload in the ports or operate within the framework of fishery agreements, there is provision for biological monitoring nearly everywhere, but for the small-scale fishing operations, which because of their dispersed and heterogenous nature require very rigorous methods of biological sampling, this monitoring is in most instances deficient. In the economic area, the statistics are too often non-existent or subject to grave reservations both for the industrial- and small-scale fisheries.

85. The need to incorporate fisheries planning within the national development plan is recognized in nearly all the countries, but the lack of basic economic information renders the task arduous. Sectoral planning implies at least a general knowledge of the various levels of the sector: production, processing, distribution, foreign trade. As far as we have been able to determine, the information regarding these various levels, essential for planning, is available in a suitably accurate form only in Senegal. It is being gathered in Morocco and Mauritania as well as in Côte d'Ivoire, Benin, Togo, Cameroon and the Congo.

6. Social constraints

86. All the African countries are facing rapid urban growth, major unemployment and, in the case of a number of them, a food deficit. In this context, the fisheries sector can play a significant role, even if not to the degree of importance sometimes ascribed to them. In Senegal, where the fisheries represent one of the activities that contribute the most foreign exchange, they account for only 3 per cent of the wealth created (GDP).

87. The independent small-scale fisheries sector exhibits a great ability to absorb innovations once their economic usefulness has been demonstrated; this is illustrated by the motorization of the pirogues and the adoption of new fishing techniques, such as the rotating seines. What is more, the small-scale sector as a whole has demonstrated its ability to adapt to the changes occuring at any one of the stages within the sector. Thus we find that small-scale processing in Senegal has effectively kept pace with the increase in production resulting from the adoption of the rotating nets.

88. The international organizations, the bilateral donors and the non-governmental organizations have only recently become aware of the relative importance of the independent small-scale fisheries sector and, above all, of its specific characteristics. It is fair to say that this change goes back to the years 1980-1982. Assistance to the small-scale fisheries, referred to as

"traditional", is provided with a view to transforming it into a "modern" fishing sector, implying the need for imported vessels and major transfers of technology.

89. In this connection, it should be noted that the effectiveness of techniques depends greatly on the social conditions under which they are used. This is clearly revealed by the deliberate refusal to adopt the vessels that were supposed to replace the pirogues in Ghana, Senegal and elsewhere, at the same time that the local vessels were evolving on their own.

90. The projects most likely to succeed will be those whose objective it is to improve the valorization of production, i.e., those that contribute to the creation of an environment conducive to development: access to credit, unloading conditions, streamlining of distribution channels, sharing of resources. However, projects of this type make it difficult to calculate an internal rate of return. The question arises as to whether it is better to implement projects that bring a high rate of return and are doomed to failure or, on the other hand, to undertake projects that, though they may occasionally require continuous infusions of money, offer an excellent chance of success. A small policy of big projects is still preferred to a big policy of small projects.

91. Whereas during the 1970s assistance was provided only by the former colonial countries and by UNDP, at present more than 20 aid agencies are at work in West Africa, and to these must be added the non-governmental organizations.

IV. THE PRIORITIES

1. Management of the exclusive economic zones

92. The adoption of the new law of the seas has conferred on the coastal countries the control of the newly created exclusive economic zones. The legal possibility now exists of managing marine resources in a manner consistent with current and future national interests. The world fisheries conference held in Rome in 1984 stressed the need of promoting the independent small-scale fisheries, whose economic, and not only social, role has become recognized. However, this new factor implies specific priorities.

93. The coastal States must develop the capacity to monitor and manage:

- Stocks, so as to preserve their ability to regenerate themselves;

- Fleets, so as to ensure that these stocks are valorized in an optimal manner most beneficial to the national interest.

94. This priority implies:

- A scientific potential that includes biological, economic and social skills;

- The precise definition of the ways in which the resources are to be shared among the various components of the national fishing fleet and between the national fleet and foreign fleets.

95. The species are frequently interdependent (the overfishing of one species has implications for the entire food chain). In their migrations, the stocks ignore national boundaries, and the lack of management in one country is at the expense, at least partially, of its neighbours; it is impossible to attempt to deal with international constraints at the national level. States must, therefore, in their own properly understood self-interest, promote co-operation with their neighbours.

2. Food strategy

96. Considering the importance of the food problem in Africa and also the heavy volume of imports to the regions with abundant fish resources, the time apears to be at hand for beginning a serious study into the use of rejects and secondary catches.

3. Foreign trade

97. That the African countries are net importers of marine products is well illustrated by:

- Their problems in the management of the exclusive economy zones;
- Their difficulties in securing access to external markets.

98. The solution to this increasing deficit lies at least in part in the observance of the following priorities:

- Joint ventures not limited to production, but also covering final marketing and including the training of local personnel;

- Consideration of the effects of imports on local fisheries for the purpose of arriving at a coherent import taxation policy, where necessary;

- South-South co-operation in the area of international trade through the mutual opening of markets and the harmonization of import policies and regulations.

4. Industrial policy

99. Inclusion of the fisheries sector in national planning. This priority is a key to the integration of the fisheries in the national economic fabric and the avoidance of the phenomena of unco-ordinated growth so familiar to development economists.

100. Consideration of the various levels of the fisheries sector regarded as a whole, and the evaluation of projects taking into account their effects on the various levels of this system: small-scale versus industrial-scale; resources, production, processing and distribution.

101. The accordance of priority to the establishment of an environment conducive to the development of the sector: maintenance, communications, energy, administration, surveillance of the exclusive economic zone. Evaluation of projects on the basis of the context in which they are to be undertaken (availability in the country of cold storage facilities, continuous power failures, a telephone system that works when it feels like it, etc.).

102. Optimization of the existing infrastructures, with no hesitancy in eliminating those that have no chance of someday becoming serviceable and that, for the time being, are too expensive, with the operating costs thus recovered used to make more effective those infrastructures for which this is possible.

103. Consideration of recurrent costs in the selection of projects, on penalty of increasing, through the implementation of the project, the country's dependence on foreign aid.

104. Clear and effective procedures for arbitration in the following crucial areas:

- Between administrative management and industrial management;

- Between tourism and the fisheries sector;

- Evaluation of the effects of hydro-agricultural development projects on the fisheries sector;

- Between prestigious technologies and technologies that create wealth and thus employment.

5. Employment

105. In the exclusive economic zone, absolute priority to small-scale fishing in all cases of competition with the semi-industrial- or industrial-scale fisheries sector, for the reason that small-scale fisheries create greater wealth and employment at lower costs.

106. Access to credit rather than the establishment of new semi-administrative structures.

107. Inclusion of training plans in joint ventures.

108. An increase in the volume of training at intermediate levels and not only at the highest level. Example: most of the persons training on EEC fellowships are civil servants.

6. Technological choices

109. The direct dependence of technological choices on the context leads to a rejection of the notion of "appropriate technology", which is most often a synonym for simplified technology, in favour of the concept of "appropriable technology" i.e., technology capable of being advantageously integrated within the context in which it is used. In some cases this may be sophisticated technology.

110. The preferential criterion in the selection of technology should be the creation of wealth, as it is wealth that creates jobs and not vice versa.

111. A special emphasis should be placed on maintenance, a major shortcoming in the majority of the African economies. This task is to be approached through the training, locally, of mid- and higher-level supervisory personnel and not simply through the assignment of senior staff to studies at foreign universities.

112. In a context of limited resources, priority is to be given to valorizing production rather than to increasing it:

- Quality and managment in the industrial-scale fisheries sector;

- Quality, packaging, storage and transport in the industrial- and small-scale fisheries sector.

113. Dietary habits and socially accepted standards should be taken into account when selecting distribution models (cold chains or processed products).

7. Need for a global strategy

114. As we near the end of this paper, we hope to have clearly demonstrated that the fisheries sector does not consist of wholly independent activities and that measures taken in regard to any one of these activities are certain to have more or less substantial repercussions on the others. Accordingly, specific actions should be inspired by an overall view of the development of this sector, and planning should not be confused with a catalogue of unrelated projects. This involves a series of priorities at the national and international levels, which in our view should be those listed below. This list, far from being exhaustive, is intended to represent a coherent totality, which the participants in the present conference are invited to criticize, revise and modify.

7-A. At the national level

115. The fisheries sector should be regarded as a whole representing, in turn, an interdependent element of the national economy. This principle should be observed in the planning of the sector, which means that planners must be capable of rejecting projects that, although interesting, may not fit into the global framework thus defined.

116. There should be better valorization rather than greater production, in order both to make available the funds necessary for development and to utilize with maximum effect renewable but limited resources.

117. The exploitation of the exclusive economic zones by foreign fleets should be limited to a strict minimum. The preferred approach, wherever possible, should be the establishment of mixed companies, provided that these joint ventures are very precisely defined.

118. Care should be taken to ensure that the joint venture extends, whenever possible, to marketing outside the country, and that there is provision for the training of nationals, particularly in marketing.

119. Thought should be given to the use of rejected sea products and secondary catches, as these represent a way of achieving a substantial increase in national production, and projects in this area should be promoted.

120. Absolute priority should be given to training:

- Economic training of administrative and industrial personnel;
- Technical training of mid-level staff and technicians.

7-B. At the international level

121. Promotion of regional co-operation for the management of the exclusive economic zones, international marketing, and the conclusion of fisheries and joint venture agreements, with special consideration given to the strengthening of existing structures (CECAF, ISCEAF, etc.) rather than to the creation of new structures.

122. Reinforcement of the scientific potential, including the economic and social research.

123. The accordance of priority to projects capable of bringing about sectoral improvements rather than production projects:

- Simple and reliable statistics in both the economic and biological areas and relating to both small-scale and industrial-scale activities, with the strengthening, to this end, of the existing structures rather than the creation of new ones (national administrations, regional projects, fisheries information schemes, etc.);

- Personnel training in the area of economic management;

- Technical training of mid-level staff and technical personnel, with emphasis on maintenance.

124. The integration of projects within the infrastructural, political, institutional and social context in which they are to operate.

125. The re-evaluation of the concepts of "transfer of technology" and "appropriate technology" in the light of the results of projects carried out over the last 15 years.

126. Preparation of more fisheries sector case studies for the purpose of formulating:

- A battery of simple indicators capable of being statistically monitored everywhere, thus making it possible to study the evolution of the sector;

- A guide for the design of industrial policies in the fisheries sector;

- A simplified guide to project evaluation for the use of national entrepreneurs and administrations.

127. The training of the officials of international organizations in the establishment of fisheries, taking into account the fact that, too often, their thinking appears to be oriented only towards the management of stocks or their industrial exploitation and towards the adoption of concepts specific to industrial countries operating under entirely different conditions.

128. The elaboration of a big policy of small projects rather than the small policy of big projects currently being pursued despite all the talk. At present, project size depends more on organization-internal managerial considerations than on national priorities: the management of small projects is more complex than the management of several large projects. But facts are facts and the last two decades have witnessed the failure of a number of projects with satisfactory internal rates of return.

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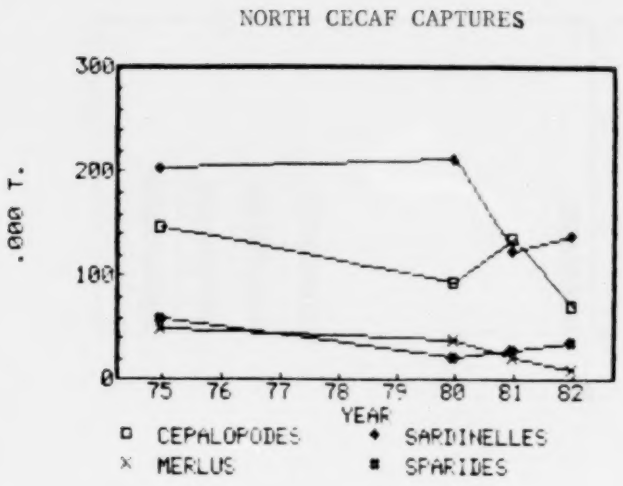
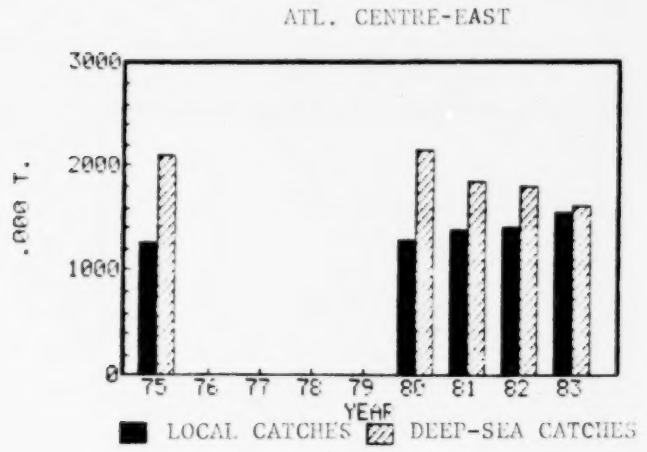


Fig. 1. Evolution of catches in the northern area of CECAF (according to FAO)

Fig. 2. Local and deep-sea catches
Centre-East Atlantic



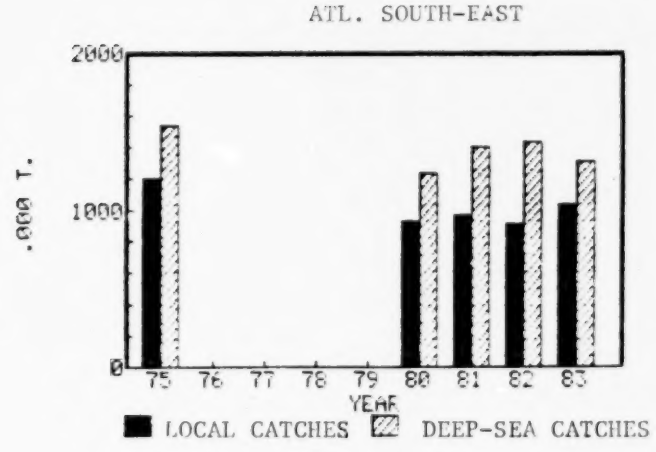


Fig. 3. Local and deep-sea catches in the
South-East Atlantic

Fig. 4. Distribution areas of fish in Africa.

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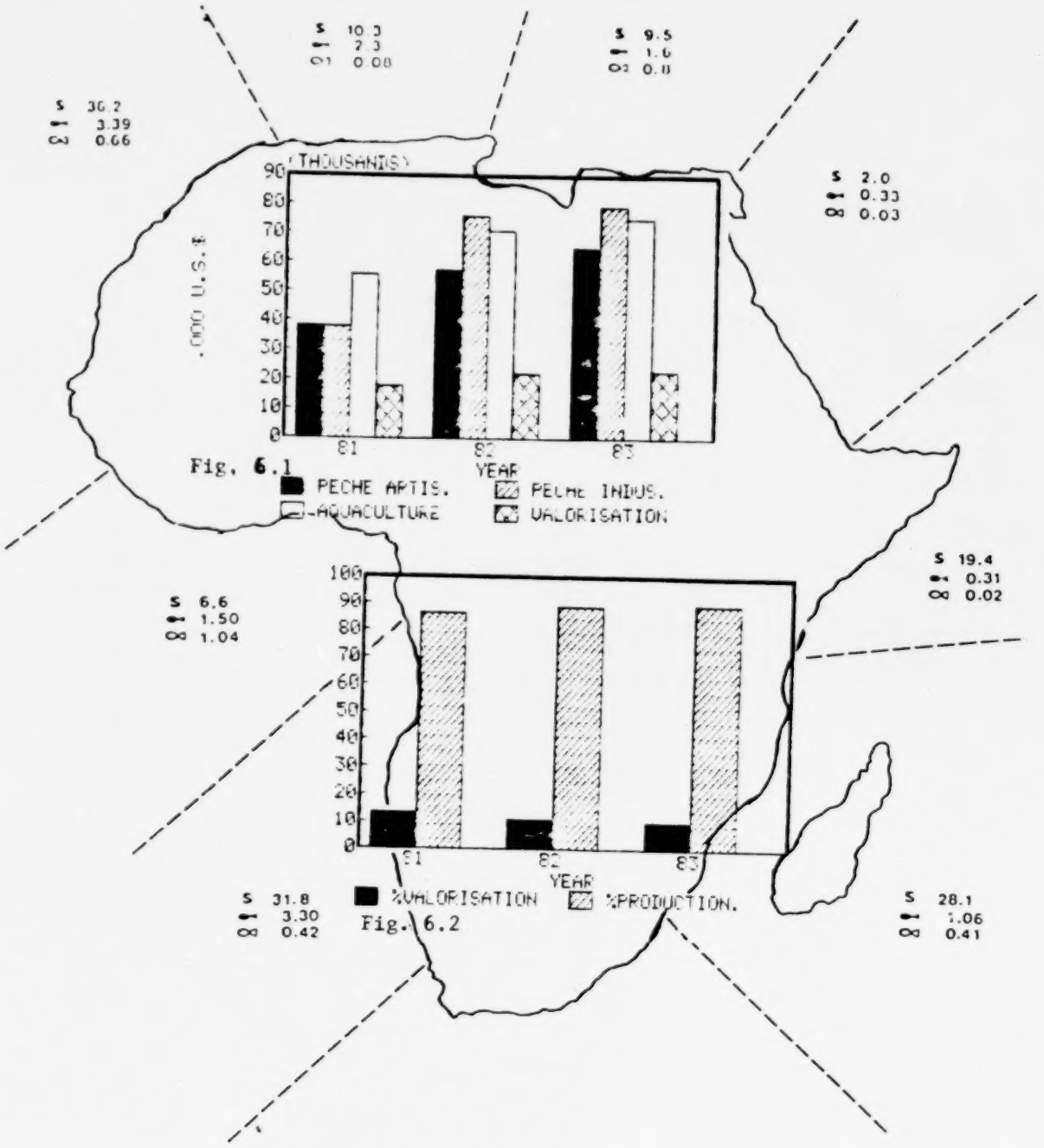

S Assistance for fisheries in 1983 (millions of $US)

Catches potential (millions of tons)

Catches in 1982 (millions of tons)

Fig. 5. Distribution according to sub-region of assistance for fisheries, catches potential in Africa and catches of developing countries in Africa.

Source: JOSEPEIT 1984

TABLE 1. POTENTIALS AND CATCHES BY GROUPS OF MARINE SPECIES IN 1981

	ATL.C.E.	ATL.S.E.	O.IND.O. (1)	MEDIT. (1)
DEEP-SEA PELAGICS				
POTENTIAL (2)	(900)	(900)	(600)	(60)
CATCHES	250	40	180	60
COASTAL PELAGICS				
POTENTIAL	2500	2000	2200	800
CATCHES	1850	1680	750	1060
DEMERSAL FISHES				
POTENTIAL	800	800	1200	400
CATCHES	960	600	880	350
CRUSTACEANS				
POTENTIAL	30	40	290	35
CATCHES	40	10	290	30
CEPHALOPODS				
POTENTIAL	200	40	220	60
CATCHES	150	10	10	50

- (1) West Ocean Indian and Mediterranean in their totality, including Africa.

- (2) The potentials of deep-sea pelagics can refer only to a whole ocean. It should be noted that the catches in Africa represent one-third of the Atlantic potential.

Sources: FAO (ROBINSON, FIDI/0772) and miscellaneous (see Bibliography).

TABLE 2: AQUATIC POTENTIALS AND PRODUCTIONS IN AFRICA, 1984 (FAO SOURCES AND OTHERS)

COUNTRIES	SWEET WATER		SEA		AQUATIC TOTAL	TOTAL	%EXPLOIT.
	POTENTIAL	PROD.	POTENTIAL	PROD.	PROD.	POTENT.	PROD.	
AFR.DU SUD	33000	1000	600000	598000	650	633000	599650	95%
ALGERIE	2600	120	80000	75000	50	82600	75170	91%
ANGOLA	220000	8000	700000	62700		920000	425000	46%
BENIN	16200	16400	9500	3600		25700	20000	78%
BOTSWANA	33000	1500	0	0		33000	1500	5%
BURKINA FASO	6800	7000	0	0		6800	7000	103%
BURUNDI	19600	12000	0	0		19600	12000	61%
CAMEROUN	63000	30000	45000	34300	20	108000	64320	60%
CAP-VERT	0	0	25000	9131	0	25000	9131	37%
CENTR.AFRIQUE	200000	13000	0	0	360	200000	13360	7%
COMORES	0	0	10000	4000		10000	4000	40%
COTE D'IVOIRE	42500	18000	140000	65700	325	182500	84025	46%
CONGO	175500	15000	25000	19500	45	200500	34545	17%
DJIBOUTI	4000	0	1000	425	0	5000	425	9%
EGYPTE	69000	55000	45000	17000	0	114000	72000	63%
ETHIOPIE	136000	3500	15000	400		151000	3900	3%
GABON	27000	1500	130000	14000	10	157000	15510	10%
GAMBIE	11000	2800	30000	15500		41000	18300	45%
GHANA	56400	40000	175000	198500	120	231400	238620	103%
GUINEE	11000	2500	273000	17500		284000	20000	7%
GUINEE-BISSAU	850	400	119000	3000		119850	3400	3%
GUINEE EQUATOR.	350	400	19000	3600		19350	4000	21%
KENYA	83900	85000	15000	7000	440	98900	92440	93%
LESOTHO	290	12	0	0	20	290	32	11%
LIBERIA	3900	4000	69000	10700	5	72900	14705	20%
LIBYE	60	0	12000	7800		12060	7800	65%
MADAGASCAR	50000	42500	100000	13500	413	150000	56413	38%
MALAWI	145000	70000	0	0	70	145000	70070	48%
MALI	135000	60000	0	0		135000	60000	44%
MAURITANIE	15000	11000	300000	41000	24	315000	52024	17%
MAROC	8000	1250	1150000	466500	0	1158000	467750	40%
MAURICE	350	25	15000	9500	0	15350	9525	62%
MOZAMBIQUE	67700	5500	175000	37450		242700	42950	18%
NAMIBIE			800000	162600		800000	162600	20%
NIGER	56700	8000	0	0	0	56700	8000	14%
NIGERIA	120000	80000	150000	100000	22000	270000	202000	75%
OUGANDA	208000	212000	0	0	700	208000	212700	102%
REUNION	10	0		2850	20		2870	
RWANDA	18300	1300	0	0		18300	1300	7%
SAHARA OCC.						0	0	
SAO TOME-PPE	0	0	6000	4290		6000	4290	72%
SENEGAL	40000	25000	350000	250000	100	390000	275100	71%
SEYCHELLES	0	0	94000	52700	0	94000	52700	56%
SIERRA LEONE	23000	16500	130000	25000	5	153000	41505	27%
SOMALIE	13100		20000	15300		33100	18000	54%
SOUDAN	200000	35000	10000	4000	50	210000	39050	19%
SWAZILAND	640		0	0	50	640	50	8%
TANZANIE	350000	231000	69000	31200		419000	262200	63%
TCHAD	150000	110000	0	0		150000	110000	73%
TOGO	1600	700	15000	2500		16600	13200	80%
TUNISIE	17700	500	80000	75000	150	97700	75650	77%
ZAIRE	400000	120000	5000	1000	700	405000	121700	30%
ZAMBIE	195000	65000	0	0	1000	195000	66000	34%
ZIMBABWE	18500	16400	0	0	800	18500	17200	93%
TOTAL	3449550	1428807	6006500	2461746		9456050	3890553	41%

TABLE 3: NATIONAL MEANS OF CATCHES IN AFRICA

COUNTRIES	PIROGUES BOATS	MOTOR.	TRAWLERS	TUNA BOATS	SMALL TRAWLERS	SARDINE BOATS	OTHERS
AFR.DU SUD							
ALGERIE							
ANGOLA							
BENIN	600	250	9	0	2	0	0
BOTSWANA							
BURKINA FASO	400	0	0	0	0	0	0
BURUNDI	950	900	0	0	0	0	20
CAMEROUN	5000		38	0	0	0	0
CAP-VERT	1000	250	0	18	0	0	5
CENTR.AFRIQUE	500		0	0	0	0	0
COMORES	2500						
COTE D'IVOIRE	2500		12	8	0	16	0
CONGO	470		13	3	0	5	0
DJIBOUTI	15						
EGYPTE	2500		92			200	120
ETHIOPIE							
GABON	2600	2500	33	0	10	0	0
GAMBIE	800	440	2	0	0	7	0
GHANA	8500	5000	360	33			
GUINEE	1700		14	0	0	0	0
GUINEE-BISSAU	850		10	0	0	0	0
GUINEE EQUATOR.	700		0	0	3	0	0
KENYA	3800						
LESOTHO							
LIBERIA	1050		4	0	0	0	0
LIBYE	400	400	26	5	0	0	3
MADAGASCAR	8500		40	0	0	0	0
MALAWI	9000	800	0	0	0	0	0
MALI	7000	800	0	0	0	0	0
MAURITANIE	440		69	0	119	21	0
MAROC	5500	4000	241	0	1450	145	137
MAURICE	800	200	0	2	8	0	0
MOZAMBIQUE	5200	5200	110	0	20	0	0
NAMIBIE							
NIGER	2000		0	0	0	0	0
NIGERIA	13000	3500	79	0	0	2	0
OUGANDA	11000	3000	0	0	0	0	
REUNION							
RWANDA	800						
SAHARA OCC.							
SAO TOME-PPE	1500	300	2	0	7	2	0
SENEGAL	8600	5000	126	5	14	19	
SEYCHELLES	300						
SIERRA LEONE	7000		20	0	0	0	0
SOMALIE	300	300	10	0	0	0	0
SOUDAN	600						
SWAZILAND							
TANZANIE	24000	1000	20	0	0	0	0
TCHAD	9000	9000	0	0	0	0	0
TOGO	2250	180	1	0	2		
TUNISIE	6100	2200	200	35			185
ZAIRE	8800		0	0	0	0	0
ZAMBIE	15500		0	0	0	0	0
ZIMBABWE	200						156
TOTAL	184225	45220	1533	109	1635	417	626

TABLE 4: NATIONAL PRODUCTION AND FOREIGN TRADES, ESTIMATION 1985
WEIGHT IN TONNES; VALUES IN MILLIONS OF $US (FAO AND OTHERS)

COUNTRIES	TOTAL PRODUC.	EXPORTS TONNES	IMPORTS TONNES	CONS. APPAR.	VALUE PROD.	EXPORTS US $	IMPORTS US $
AFR.DU SUD	599650						
ALGERIE	75170						
ANGOLA	425000						
BENIN	20000	0	15000	35000	13,7	0	7,8
BOTSWANA	1500	0	1600	3100	0,7	0	1,8
BURKINA FASO	7000	0	3500	10500	5,25	0	1,56
BURUNDI	12000	0	200	12200	5,8	0	0,21
CAMEROUN	64320	7000	18500	75820	21,3	4,68	6,01
CAP-VERT	9131	1401	0	7731	3	2,1	0
CENTR.AFRIQUE	13360	1000	1200	13560	12,9	0,7	0,5
COMORES	4000	0	1000	5000		0	0,4
COTE D'IVOIRE	84025	46900	111700	148825	28	35,4	44,5
CONGO	34545	13000	48000	69545	21,5	1	18,55
DJIBOUTI	425	0	0	425	0,48	0	0
EGYPTE	72000	400	80000	151600	21	0,9	22
ETHIOPIE	3900	0	300	4200	1	0	0,1
GABON	15510	200	14000	29310	11,64	0,38	7,09
GAMBIE	18300	4800	600	14100	4,75	0,93	0,17
GHANA	238620	35300	10700	214020	49,24	3,65	1,35
GUINEE	20000	0	16500	36500	1,42	0	3,7
GUINEE-BISSAU	3400	2300	400	1500	1,01	4,2	0,2
GUINEE EQUATOR.	4000				0,88		
KENYA	92440	2200	5200	95440	13,26	2,6	0,9
LESOTHO	32	0	2000	2032	0,014	0	2,3
LIBERIA	14705	1000	14300	28005	3,08	4,3	3,3
LIBYE	7800	0	40600	48400	20	0	32,6
MADAGASCAR	56413	5800	0	50613	22,85	18,4	0
MALAWI	70070	2300	1000	68770	10,65	2,1	0,65
MALI	60000	1200	250	59050	17,9	0,63	0,27
MAURITANIE	52024	69500	61500	44024	12	98,35	13,8
MAROC	467750	104000	150	363900	104,8	74,85	0,04
MAURICE	9525	6300	16800	20025	6	5,9	8,5
MOZAMBIQUE	42950	9800	13200	46350	12,5	20	5,2
NAMIBIE	162600						
NIGER	8000	500	1500	9000	6	0,32	1,4
NIGERIA	202000	1000	350000	551000		1,2	235
OUGANDA	212700	1300	0	211400	77,5	0,72	0
REUNION	2870						
RWANDA	1300	0	0	1300	0,46	0	0
SAHARA OCC.							
SAO TOME-PPE	4290						
SENEGAL	275100	91000	1000	185100	90	120	1,2
SEYCHELLES	52700						
SIERRA LEONE	41505						
SOMALIE	18000	7600	0	10400			
SOUDAN	39050	1600	1200	38650	19,5	0,82	0,16
SWAZILAND	50	0	1200	1250			
TANZANIE	262200						
TCHAD	110000						
TOGO	13200	100	12000	25100	4	0,05	3,5
TUNISIE	75650	5900	300	70050	88,5	25,5	0,3
ZAIRE	121700	0	64500	186200			
ZAMBIE	66000	0	3600	69600	25,8	0,05	1,12
ZIMBABWE	17200	0	2500	19700		0	1,8
TOTAL	3890553						

TABLE 6: UTILIZATION OF CATCHES IN AFRICA (SOURCE FAO AND MISC.)

COUNTRIES	TOTAL PROD.	FRESH CHILLED FROZEN	DRIED SALTED SMOKED	CRUSTAC. MOLLUSCS	CANNED FISH	MEAL	OIL
AFR.DU SUD	599650						
ALGERIE	75170		400		sard. 4000		
ANGOLA	425000	7000	27000		div.3500	5000	1800
BENIN	20000	4000	16000	1			
BOTSWANA	1500						
BURKINA FASO	7000						
BURUNDI	12000						
CAMEROUN	64320		4000				
CAP-VERT	9131	1400		40	thon 300	137	
CENTR.AFRIQUE	13360						
COMORES	4000						
COTE D'IVOIRE	84025		15000		thon 25000	3700	
CONGO	34545		4000				
DJIBOUTI	425						
EGYPTE	72000						
ETHIOPIE	3900						
GABON	15510						
GAMBIE	18300		3000				
GHANA	238620		57000		thon 1200		
GUINEE	20000						
GUINEE-BISSAU	3400						
GUINEE EQUATOR.	4000						
KENYA	92440	2600	12000				
LESOTHO	32						
LIBERIA	14705						
LIBYE	7800				thon+sard.1400	400	
MADAGASCAR	56413		2000	5000			
MALAWI	70070						
MALI	60000		25000				
MAURITANIE	52024		300	31000		30000	1800
MAROC	467750	113000	9400		82800	87700	
MAURICE	9525	2400	200	50	thon 4000	400	
MOZAMBIQUE	42950		5000	13000	300		
NAMIBIE	162600					80000	30000
NIGER	8000		2000				
NIGERIA	202000						
OUGANDA	212700	whole consumed fresh or salted/dried					
REUNION	2870						
RWANDA	1300	consumed fresh locally; small surplus dried					
SAHARA OCC.	0						
SAO TOME-PPE	4290	4200					
SENEGAL	275100	80000	80000	6500	thon 20000	23000	
SEYCHELLES	52700						
SIERRA LEONE	41505		18000				
SOMALIE	18000		1000		200		
SOUDAN	39050						
SWAZILAND	50						
TANZANIE	262200		35000				
TCHAD	110000		20000				
TOGO	13200		4000				
TUNISIE	75650			5000	sard. 5000		
ZAIRE	121700						
ZAMBIE	66000		3600				
ZIMBABWE	17200						
TOTAL	3890553						

TABLE 7: EMPLOYMENT IN FISHERIES IN AFRICA

COUNTRIES	POPULATION (MILLIONS)	CONTINENT.	MARITIME	TOT.ART.	OCCASIONAL	INDUSTR.	TOTAL FISH
AFR.DU SUD	31,4						
ALGERIE	21,5						
ANGOLA	8,8			7500		500	8000
BENIN	3,9	5000	2900	7900	16000	100	8000
BOTSWANA	1,15			1300			1300
BURKINA FASO	6,8	450	0	450	10000	0	450
BURUNDI	4,6	4675		4675			4675
CAMEROUN	9	20000	11000	31000		500	31500
CAP-VERT	0,4	0	2610	2610	830		3440
CENTR.AFRIQUE	2,5	650	0	650	4500	0	650
COMORES	0,44		8000	8000			8000
COTE D'IVOIRE	8,5			19000		1000	20000
CONGO	1,7	8000	650	8650		300	8950
DJIBOUTI	0,35			80	250		80
EGYPTE	53,4			80000	300000	20000	100000
ETHIOPIE	34						
GABON	0,7			4600	3000		
GAMBIE	0,6			1400		150	1550
GHANA	12						110000
GUINEE	5,4		8000			500	8500
GUINEE-BISSAU	0,9			2700		300	3000
GUINEE EQUATOR.	0,3	400	1300	1700		0	1700
KENYA	19,7	16000	3000	19000			19000
LESOTHO	1,5	200	0	200		0	200
LIBERIA	2,15			2700		200	2900
LIBYE	3,1	0	700	700		300	1000
MADAGASCAR	9,7	20000	5000	25000		500	25500
MALAWI	6,9	10000	0	10000		500	10500
MALI	7,8	70000	0	70000		0	70000
MAURITANIE	1,9		1000	6000		1000	7000
MAROC	23,5		8000	8000		5500	13500
MAURICE	1	0	2500	2500		500	3000
MOZAMBIQUE	13,85	10000	6000	16000		2500	18500
NAMIBIE	1,55						
NIGER	6	4000	0	4000		0	4000
NIGERIA	80						
OUGANDA	15,2						35000
REUNION	0,58						200
RWANDA	6	2000	0	2000			2000
SAHARA OCC.							
SAO TOME-PPE	0,09		1600	1600			1600
SENEGAL	6,5	10000	27000	37000	10000	3600	40600
SEYCHELLES	0,07		720	720		120	840
SIERRA LEONE	3,5						
SOMALIE	5,6		2600	2600		200	2800
SOUDAN	20,9	6000	400	6400		0	6400
SWAZILAND	0,65	100	0	100		0	100
TANZANIE	20,9	40000	18000	58000		450	58450
TCHAD	5	100000	0	100000		0	100000
TOGO	2,85	6000	2250	8250		30	8280
TUNISIE	7,5			5500		2500	8000
ZAIRE	31,2	60000	1500	61500		50	61550
ZAMBIE	6,5	15500	0	15500		0	15500
ZIMBABWE	8	1000	0	1000		0	1000
TOTAL	5? ,03	409975	114730	646185 (?)	1600000	41300	836915

Table 8: ON-BOARD HANDLING, ON-SHORE FACILITIES

COUNTRIES	On-board handling		Main and secondary unloading points	Reparation yard
	ice	freezing		
AFRIQUE DU SUD				
ALGERIE				x
ANGOLA				
BENIN		12	1	
BOTSWANA				
BURKINA FASO				
BURUNDI				
CAMEROUN	17	17	4 (45-90)	x
CAP-VERT			2-4	1
CENT. AFRIQUE				
COMORES			100-140	
COTE D'IVOIRE			3	2-6
CONGO	15		1 (16)	x
DJIBOUTI				x
EGYPTE				x
ETHIOPIE				
GABON	14	13	2	x
GAMBIE	115	115	1 (12)	1
GHANA		41	3	x
GUINEE	65	65	1 (80)	x
GUINEE-BISSAU		4	3	2
GUINEE EQUAT.			5	
KENYA				x
LESOTHO				
LIBERIA	8	10	4 (20)	1
LIBYE				x
MADAGASCAR			8	
MALAWI			10 (6 on Lake Malawi)	
MALI			1	x
MAURITANIE	36	14 + 50	1 (18)	0
MAROC				x
MAURICE			(64)	
MOZAMBIQUE			5	?
NAMIBIE			2 (Walvis Bay for 93%)	x
NIGER				x
NIGERIA				
OUGANDA				
REUNION				
RWANDA				
SAHARA OCC.				
SAO TOME-PPE			6	x
SENEGAL	192	50	10 (160)	7
SEYCHELLES			36	
SIERRA LEONE		5	1	1
SOMALIE				
SOUDAN				
SWAZILAND				
TANZANIE	12			x
TCHAD			6 to 20 (lake level)	
TOGO	18	18	1	
TUNISIE				x
ZAIRE				
ZAMBIE				
ZIMBABWE				

Table 9.1: On-shore handling: cold

COUNTRIES	Ice factories		Freezing unities		
	Nb	capacity T/D	Nb	Capacity T/DAY	Production T/YEAR
AFRIQUE DU SUD					
ALGERIE					
ANGOLA					
BENIN		30		16	800 (crustaceans)
BOTSWANA					
BURKINA FASO					
BURUNDI					5 000 (ind. fisheries)
CAMEROUN		35 - 200 ?		10 (for 55 theor.)	
CAP-VERT		20	3	80	
CENT. AFRIQUE					
COMORES	3	30	3	15	800
COTE D'IVOIRE	2	300 + 10	4	90	
CONGO	1	60 - 90		0	
DJIBOUTI			x		
EGYPTE			x		
ETHIOPIE	2	25			
GABON	2	60		0 (for 20 theor.)	
GAMBIE	1	50 - 60	2	90	
GHANA	2	80			
GUINEE	1	30			
GUINEE-BISSAU	2	80	1	65	
GUINEE EQUAT.				0 (for 2 theor.)	
KENYA			x		
LESOTHO					
LIBERIA		30		20	200 (shrimps)
LIBYE					
MADAGASCAR	5	85	12	220	
MALAWI	1	10			
MALI	x	5	1	4	
MAURITANIE	6	150 - 200	8	200 - 300	
MAROC					
MAURICE					
MOZAMBIQUE			1		
NAMIBIE			x	5 000	
NIGER					
NIGERIA			2		x (shrimps)
OUGANDA					
REUNION					
RWANDA	1				
SAHARA OCC.					
SAO TOME-PPE		3 (for 15th.)			
SENEGAL		220	35	1 000	
SEYCHELLES			x	5	100
SIERRA LEONE	1	80		75 - 105	
SOMALIE					
SOUDAN					
SWAZILAND					
TANZANIE	x	16	x	16	
TCHAD					
TOGO	2	40			
TUNISIE	x		x		
ZAIRE			x		
ZAMBIE	x		x		
ZIMBABWE					

Table 9.2. : On-shore handling: cold

Countries	Frozen storehouses			Chilled storehouses	
	Nb	Capacity T ou m3	Localisation	Capacity T ou m3	Localisation
AFRIQUE DU SUD					
ALGERIE					
ANGOLA					
BENIN		7500 T dont 1500 T poissons + 1000 T	Côte + intérieur	800 T	
BOTSWANA					
BURKINA FASO					
BURUNDI					
CAMEROUN	44	3000 à 9000 m3+ 1800 m3	Douala + autres	500 m3	Douala
CAP-VERT	8	14000 m3	Mindelo	100-400 T	
CENTRE AFRIQUE					
COMORES	4	100 T			
COTE D'IVOIRE	120+40	7500 T+ 1500 T	Abidjan + autres	6000 m3	Hors Abidjan
CONGO	8	5000 m3+2000 T	Pte Noire + autres	2000 m3	Pointe Noire
DJIBOUTI	x				
EGYPTE					
ETHIOPIE					
GABON	4	2000 m3	Libreville	1000 m3+300 m3	Libreville+Pt Gentil(thon)
GAMBIE		1500 T		100 T	Banjul
GHANA		6000m3 utilis/20000m3 tot.		20000 T	ACCRA-TEMA
GUINEE	2	3600 T		450 T	
GUINEE-BISSAU	3	2800 T		600-800 T	
GUINEE EQUATOR.	2	800-1000m3		500-1000 m3	
KENYA					
LESOTHO					
LIBERIA	15	2000 T+500 T	Monrovia + intérieur		
LIBYE					
MADAGASCAR	2	2000 T			
MALAWI	4	300 T			
MALI	x	20 T	Mopti		
MAURITANIE	10	15000 à 20000m3			
MAROC					
MAURICE	x	1200 T			
MOZAMBIQUE	2	3000 T	Maputo, Beira		
NAMIBIE					
NIGER					
NIGERIA				120000 T	
OUGANDA					
REUNION					
RWANDA					
SAHARA OCC.					
SAO TOME PPE		160 m3		100-200 T	
SENEGAL	35	12000 à 17000 T		8000 T	Dakar, Côte, intérieur
SEYCHELLES	x	1000 T+400 T prévu(thon) et 300 T+5000 T prévu			
SIERRA LEONE		3300 T+200 T	Freetown+8villages	450 T	
SOMALIE	3	1600 T	Mogadishio, Kismayo, Bérbera		
SOUDAN					
SWAZILAND					
TANZANIE	x	200 T			
TCHAD					
TOGO	15	1000 T+2000 T	Lomé + autres	180 T	9 villages
TUNISIE	x				
ZAIRE	x				
ZAMBIE	x				
ZIMBAWE					

TABLE 10 ON-SHORE HANDLING: OTHER THAN COLD

Countries	CANNING Nb	Capacity	Production	Localisation	MEALS Nb	Capacity	Production	Localisation	SALTED, DRIED, SMOKED, OTHER THAN ARTISANAL Nb	Capacity	Production	Localisation	MISC. Nb	Capacity	Nature
AFRIQUE DU SUD															
ALGERIE															
ANGOLA															
BENIN									1		2 300				
BOTSWANA															
BURKINA FASO									4						
BURUNDI															
CAMEROUN									6						
CAP-VERT															
CENT. AFRIQUE															
COMORES									x		400				
COTE D'IVOIRE	2	150-200	16 000 THON + 9 000 AUT.		1+1	3 000 + 80 000 HYDROLISAT									
CONGO															
DJIBOUTI															
EGYPTE	x														
ETHIOPIE					2	75 000	ARRÊTÉ								
GABON															
GAMBIE									22		1 500	GUNJUR			
GHANA	2	25													
GUINEE	x	10							x				x		LAVAGE, EMBALLAGE
GUINEE-BISSAU															
GUINEE EQUAT.															
KENYA	1			MOMBASA	x										
LESOTHO															
LIBERIA															
LIBYE	5		200 THON + 400 SARD.						x		6				
MADAGASCAR					x	200									
MALAWI															
MALI															
MAURITANIE	1	20		NOUADHIBOU	2	75 000	2 000		x		20-30				
MAROC									2		1 000	NOUADHIBOU			
MAURICE															
MOZAMBIQUE	1			MAPUTO					1		+ PROJET DE SALAGE DE 300 000 T BY CATCH CREVETTES	MACHAWA			
NAMIBIE	5	400	17 000		8	200 000	80 000								
NIGER															
NIGERIA															
OUGANDA															
REUNION															
RWANDA															
SAHARA Occ.															
SAO TOME PPE															
SENEGAL	3	200-500	20 000		2	70 000			1	70	0 (HORS SERVICE)				
SEYCHELLES													1	25	FILETAGE
SIERRA LEONE	4	5 ?	200	FASKOREN MABO CANDOLA	1	10 000									
SOMALIE															
SOUDAN															
SWAZILAND															
TANZANIE					x	5 000 EN COURS									
TCHAD															
TOGO															
TUNISIE	x	5-15			x				1						
ZAIRE															
ZAMBIE															
ZIMBABWE															

TABLE 11 : NATURE OF CONSUMED PRODUCTS AFTER TRANSFORMATION %

Countries	Fresh %	LOCALISATION	Salted or dried	Dried or dried smoked	Smoked	Traditional not specified	Frozen	Localisation
AFRIQUE DU SUD								
ALGERIE								
ANGOLA								
BENIN	20			20	60			
BOSTWANA				xx			x	
BURKINA	70				30			
BURUNDI				xx				
CAMEROUN	25	DOUALA A 60 %			50		25	NORD 60 %
CAP-VERT	80							
CENT. AFRIQUE	50				50			
COMORES	60-80	CÔTE	10					INTÉRIEUR
COTE D'IVOIRE								
CONGO								
DJIBOUTI	x	DJIBOUTI						
EGYPTE	x		x				x	
ETHIOPIE	x	GRANDES VILLES						
GABON	xx	LIBREVILLE			x			INTÉRIEUR
GAMBIE	xx							
GHANA			25		60			
GUINEE								
GUINEE-BISSAU	x (CHALUT)				70		x (IMPORT)	Abidjan 60 % DU CONG.
GUINEE EQUAT.								
KENYA	50					x	x	
LESOTHO								
LIBERIA	5				10		80	
LIBYE								
MADAGASCAR	50-70	CÔTE						
MALAWI	20			80				
MALI	30-50			20-30	30-40			
MAURITANIE	75					25		
MAROC								
MAURICE	xx							
MOZAMBIQUE	15			60			20	
NAMIBIE	2							
NIGER	25			75				
NIGERIA	10			90				
OUGANDA	x					x		
REUNION								
RWANDA	xx							
SAHARA OCC.								
SAO TOME PPE	80	CAPITALE 70 %						
SENEGAL	50					30	20	
SEYCHELLES	xx							
SIERRA LEONE	50	CÔTE				50		INTÉRIEUR
SOMALIE								
SOUDAN	xx	KHARTOUM		x				
SWAZILAND								
TANZANIE	75	LIEUX FÊCHE		25				
TCHAD	20	NORD		80				EXPORT NIGÉRIA
TOGO	25			10	65			
TUNISIE	x	CÔTE		15	65			
ZAIRE	xx	KINSHASA						
ZAMBIE				75				
ZIMBABWE				85				

TABLEAU 12 : DISTRIBUTION

Countries	% Losses (quality, insects, breaks..)	Existence of normes and control	Existence of chain and stores	Existence of frigorific or isothermic transport	Nb of handling societies	TYPE PRIVATE	TYPE PUBLIC	TYPE MIXTE
AFRIQUE DU SUD								
ALGERIE								
ANGOLA								
BENIN				OUI (8 CAMIONS POUR 5 CENTRES	1 ?		1 ?	
BOTSWANA								
BURKINA FASO								
BURUNDI								
CAMEROUN			OUI	OUI (ROUTE ET TRAIN)	6-7	x	x	
CAP-VERT					5-6	1-2	4	
CENT. AFRIQUE								
COMORES					1		x	
COTE D'IVOIRE								
CONGO					8			
DJIBOUTI		OUI			1 ?	1? (COOP)		
EGYPTE								
ETHIOPIE								
GABON				OUI (AVION)				
GAMBIE	30				5	4		1 (GHANA)
GHANA			OUI		x		x	
GUINEE			NON		3	1 (COOPÉR)	2	
GUINEE-BISSAU					5 (ACTIV = 0)			
GUINEE EQUAT.								
KENYA	xx	OUI	OUI					
LESOTHO								
LIBERIA				OUI	1	1		
LIBYE					2		x	
MADAGASCAR		OUI	OUI		x			
MALAWI	xx			OUI (TRAIN)	11	10 (PETITES)	1	
MALI	20-40		OUI		x	x (COOP)		
MAURITANIE		OUI			10			x
MAROC		OUI						
MAURICE		OUI						
MOZAMBIQUE			OUI	NON	1 ?		1 ?	
NAMIBIE					27	xx		
NIGER	20-40							
NIGERIA		OUI			x	x		
OUGANDA								
REUNION								
RWANDA				OUI (1 CAMION)				
SAHARA OCC.								
SAO TOME PPE								
SENEGAL								
SEYCHELLES		OUI			3			
SIERRA LEONE		OUI	OUI					
SOMALIE								
SOUDAN	20	OUI						
SWAZILAND								
TANZANIE		OUI	OUI		8	5	3	
TCHAD	40-60							
TOGO					x	x	x	
TUNISIE					x	x	x	
ZAIRE								
ZAMBIE	xx		NON		3	2	1	
ZIMBABWE								

TABLE 13: ADMINISTRATION, RESEARCH AND TRAINING IN AFRICA IN THE FISHERIES SECTOR

Countries	ADMINISTRATION MINISTRY OR DEPT.	BIOLOGY	NUTRITIONAL RESEARCH	ECONOMY	TRAINING Higher	TRAINING Basic
AFR.DU SUD	MINIST.	OUI	OUI	?	OUI	OUI
ALGERIE	DIR.	OUI	OUI	NON	?	?
ANGOLA	MINIST.	OUI	?	NON	NON	OUI
BENIN	DIR.	OUI	NON (?)	ASSISTCE	NON	OUI
BOTSWANA	DIR.	NON	?	NON	NON	NON
BURKINA FASO	SERV.	NON	OUI	NON	NON	NON
BURUNDI	DIR.	OUI	?	NON	NON	?
CAMEROUN	DIR.	OUI	OUI	NON	NON	OUI
CAP-VERT	MINIST.	OUI	NON	NON	NON	OUI
CENTR.AFRIQUE	DIR.	NON	NON	NON	NON	NON
COMORES	DIR.	NON	NON	NON	NON	OUI
COTE D'IVOIRE	DIR.	OUI	OUI	NON	NON	OUI
CONGO	DIR.	OUI	OUI	NON		
DJIBOUTI	DIR.	STATS.	NON	NON	NON	?
EGYPTE	DIR.	OUI	OUI	?	OUI	OUI
ETHIOPIE	DIR.	OUI	?	NON	NON	NON
GABON	DIR.	NON	NON	NON	NON	NON
GAMBIE	DIR.	OUI	OUI	NON	NON	OUI
GHANA	MINIST.	OUI	OUI	OUI	NON	OUI
GUINEE	MINIST.	OUI	?	NON	NON	ASSISTCE
GUINEE-BISSAU	SECRET.	NON	NON	NON	NON	ASSISTCE
GUINEE EQUAT.	DIR.(?)	NON	NON	NON	NON	ASSISTCE
KENYA	DIR.	OUI	OUI	?	NON	OUI
LESOTHO	DIR.	ASSISTCE	?	NON	NON	NON
LIBERIA	DIR.(?)	NON	NON	NON	NON	NON
LIBYE	DIR.(?)	OUI	OUI	NON	NON	OUI
MADAGASCAR	DIR.	OUI	OUI	NON	OUI	OUI
MALAWI	DIR.	OUI	OUI	NON	NON	OUI
MALI	DIR.	OUI	OUI	NON	NON	OUI
MAURITANIE	MINIST.	OUI	OUI	NON	NON	ASSISTCE
MAROC	DIR.	OUI	OUI	?	OUI	OUI
MAURICE						
MOZAMBIQUE	DIR	OUI	?	NON		
NAMIBIE						
NIGER	SERVICE	NON	NON	NON	NON	NON
NIGERIA	MINIST.(?)	OUI	OUI	NON	OUI	OUI
OUGANDA	DIR.	OUI	?	NON	NON	ASSISTCE
REUNION	FRANCE	OUI	OUI	FRANCE	FRANCE	OUI
RWANDA	DIR.	OUI	?	NON	NON	NON
SAHARA OCC.						
SAO TOME PPE	MINIST.	NON	NON	NON	NON	NON
SENEGAL	MINIST.	OUI	OUI	OUI	NON	OUI
SEYCHELLES						
SIERRA LEONE	DIR.	OUI	?	ASSISTCE	NON	OUI
SOMALIE	MINIST.	ASSISTCE.	NON	NON	NON	OUI
SOUDAN	DIR	OUI	OUI	NON	NON	OUI
SWAZILAND	DIR	NON	NON	NON	NON	NON
TANZANIE	DIR.	OUI	OUI	NON	OUI	OUI
TCHAD	DIR.	NON	NON	NON	NON	NON
TOGO	DIR.	OUI	NON	ASSISTCE	NON	NON
TUNISIE	DIR.	OUI	OUI	NON	OUI	?
ZAIRE	DIR.	OUI	?	NON	NON	NON
ZAMBIE	DIR.	OUI	?	NON	NON	OUI
ZIMBABWE	DIR.	OUI	?	NON		
TOTAL						

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Table 1

ANNEX 1 (FAO Circ. Pêches, mars 85)

Atlantique centre-est (Zone 34 - COPACE)

Zones COPACE	Stock	Principaux pays	Potentiel estimé ('000 t)	Captures ('000 t) a/ 1970-74	1975-79	1980	1981	1982e/	Etat d'exploitation
Total Nord				**2334**	**2324**	**2194**	**2023**	**1527**	
NORD									
Toutes zones	Céphalopodes			173	147	94	136	72	Surexploité
34.1.1, 34.1.3	Poulpes	Japon, Espagne, URSS	100-135	95	79	53	83	33	Surexploité
34.1.3, 34.3.1	Seiches	Japon, Sénégal, Espagne	30-40	31	26	22	22	15	Surexploité
34.1.1, 34.1.3	Encornets	Rép. de Corée, Espagne	20-40	23	15	11	12	10	Surexploité
34.1.1, 34.1.3	Sardines européennes	Maroc, Espagne, URSS	1000 (variable)	392	630	495	521	337	Peut être pleinement exploité
34.1.3, 34.3.1	Sardinelles	Bermudes, Pologne, Sénégal, URSS	600 (variable)	169	204	212	125	138	Intensément exploité, surpêche locale
34.3.1	Bonga	Gambie, Sénégal	7	27	27	17	22	10	Inconnu
34.1.3, 34.3.1	Chinchards	Rép.dém. allemande Roumanie, Sénégal, URSS	400 (variable)	301	324	415	342	310	Peut être pleinement exploité (recrutement en baisse)
34.1.3, 34.3.1	Maquereaux	Roumanie, URSS	100	87	82	69	91	92	Surexploité
34.1.3, 34.3.1	Merlus	Espagne, URSS	7	41	39	29	16	9	Evaluation douteuse grande variabilité
34.1.1	Merlus	Maroc, Espagne	6-12	10	10	9	6	2	Surexploité
34.1.3, 34.3.1	Sparidés	Grèce, Sénégal, URSS	150(?)	91	60	22	28	37	Probablement surexploité

Table 1 (suite

ANNEX 1 (FAO Circ. Pêches, mars 85)

Zones COPACE	Stocks	Principaux pays	Potentiel estimé ('000 t)	Captures ('000 t) a/ 1970 -74	1975 -79	1980	1981	1982e/	Etat d'exploitation
Total Sud				**540**	**655**	**725**	**778**	**783**	
SUD									
34.3.3/34.3.4/ 34.3.5/34.3.6	Crevettes	Cameroun, Côte-d'Ivoire, Nigéria, Espagne	15	4	6	10	7	7	Voisin de la pleine exploitation
Toutes zones	Démersaux c/		68-85	158	208	256	260	240	Pleinement exploité
34.3.4	Sardinelles	Ghana, Côte-d'Ivoire	(variable)	57	53	44	39	44	Les sardinelles rondes sont en phase de reprise; pleinement exploité
34.3.6	Sardinelles	Congo, Zaïre	Inconnu	6	6	6	10	12	Sans doute modérément exploité
Toutes zones	Bonga	Gabon, Côte-d'Ivoire, Sierra Leone	Inconnu	44	40	64	69	71	Intensément exploité - stock ivoirien effondré
Total Océanique					**56**	**63**	**139**	**33**	**21**
OCEANIQUE 34.1.2/34.2.0/ 34.3.2/34.4.1/ 34.4.2									
THONIDES 34.0 b/		France, Japon, Corée, Espagne, Etats-Unis		200	249	281	300	305	Modérément à fortement exploité
ZONE INCONNUE 34.9.0					471	99	82	369	
Total pour la région a/					**3132**	**3385**	**3439**	**3216**	**3192**

a/ SOURCE: Bulletins statistiques du COPACE; données 1983 non disponibles, total régional d'après l'Annuaire des statistiques des pêches

b/ Captures dans toutes les sous-régions; voir aussi tableau 19

c/ Probablement surestimé en raison des chiffres communiqués par le Nigéria

d/ Potentiel actuel, peut-être plus faible à longue échéance

ANNEX 1 (FAO Circ. Pêches, mars 85)

Méditerranée et mer Noire (Zone 37)

Secteur a/	Groupes d'espèces	Pays côtiers	Stocks estimés	Potentiel ('000 t) b/	Captures ('000 t) c/ 1965-69	1970-74	1975-79	1980	1981	1982	1983e/	Etat d'exploitation
Baléares	Démersales	Algérie	Chalutage uniquement	80	28.4	32.4	37.0	46.7	38.2	42.5		Stocks démersaux
37.1	Pélagiques côtières	Maroc		Inconnu	...	93.2	132.4	133.6	152.7	163.3		
	Diverses d/	Espagne			...	10.3	22.6	22.7	38.6	34.9		Pleinement exploités à fortement surexploités en Méditerranée septentrionale. Modérément à pleinement exploités sur la côte méridionale
Golfe du Lion	Démersales		Poissons (plateau continental)	10	9.7	9.1	7.2	8.0	8.7	10.0		
37.2	Pélagique côtières	France	Sardines	20-25	19.7	19.7	18.5	22.4	29.9	29.3		
	Diverses d/				7.7	9.4	3.3	1.6	1.9	1.8		
Sardaigne	Démersales	France	Chalutage uniquement	60	52.4	43.6	22.8	19.2	22.1	22.3		
37.3	Pélagiques côtières	Italie (O)		100	48.5	58.8	39.1	28.5	43.2	35.9		
	Diverses d/	Tunisie (N)			37.7	15.1	12.4	12.5	11.9	11.7		
Adriatique	Démersales	Italie (E)	Chalutage uniquement	80-100	50.6	32.6	18.4	18.0	15.8	27.1		
37.4	Pélagiques côtières	Yougoslavie		Quelques centaines	47.4	80.2	91.7	121.6	138.6	124.5		
	Diverses d/				34.3	30.6	37.2	27.3	29.5	20.8		Stocks côtiers pélagiques
Mer Ionienne	Démersales	Albanie, Grèce (O)	Chalutage uniquement	85	38.2	37.8	42.2	38.4	39.8	30.1		
37.5	Pélagiques côtières	Italie (S), Libye		Inconnu	16.3	32.2	43.8	50.0	46.0	54.2		Modérément exploités sauf quelques secteurs pleinement exploités. Changements de biomasse dans l'Adriatique
	Diverses d/	Malte, Tunisie (E)			28.0	16.3	35.2	35.1	38.4	56.8		
Mer Egée	Démersales			Inconnu	19.9	17.5	22.2	26.2	25.1	27.6		
37.6	Pélagiques côtières	Grèce (E)		Inconnu	18.7	23.2	35.8	46.1	43.3	43.8		
	Diverses d/	Turquie (O)			11.5	7.5	10.2	12.9	12.3	14.4		
Levant	Démersales	Chypre, Egypte	Poissons	25(?)	10.0	10.0	12.0	13.0	15.3	11.5		
37.7	Pélagiques côtières	Israël, Liban		Inconnu	3.7	9.1	9.0	12.0	14.7	12.4		
	Diverses d/	Syrie, Turquie			10.5	4.1	3.1	4.9	5.2	3.3		
Ensemble de la Méditerranée	Démersales			400-500	199.2	183.0	161.8	169.5	165.0	171.1		
	Pélagiques côtières			500(?)	320.9	316.4	370.3	414.2	468.4	463.4		
	Diverses d/				89.0	93.3	124.0	117.0	137.8	143.7		
Total Méditerranée				1000	**609.1**	**592.7**	**656.1**	**700.7**	**771.2**	**778.2**		
Mer Noire	Démersales	Bulgarie, Roumanie		Quelques centaines	59.2	27.7	31.8	36.3	32.4	44.5		Stocks démersaux
37.8	Pélagiques côtières	Turquie		500	179.0	335.0	369.3	639.0	637.0	690.9		
	Diverses d/	URSS			86.0	57.6	73.5	85.4	60.2	140.9		Pleinement ou surexploités (turbnt)
Zone 37.0	Thonidés				...	22.9	25.9	37.7	44.5	50.9		

Table 2

ANNEX 1 (FAO Circ. Pêches, mars 85)

Table 2 (suite)

Secteur a/	Groupes d'espèces	Pays côtiers	Stocks estimés	Potentiel ('000 t) b/	Captures ('000 t) c/ 1965 -69	1970 -74	1975 -79	1980	1981	1982	1983 e/	Etat d'exploitation
Total Zone 37	Démersales				258.4	210.7	193.6	205.8	197.4	215.6		Stocks pélagiques
	Pélagiques côtières				499.9	651.4	739.6	1053.2	1105.4	1154.3		
	Diverses				175.0	150.9	197.5	202.4	198.0	284.6		Sans doute modérément à pleinement exploités
	Thonidés				...	22.9	25.9	37.7	44.5	50.9		
Total général c/				**1500**	**933.3**	**1115.1**	**1292.7**	**1647.1**	**1698.3**	**1872.2**	**1898.0**	

a/ Divisions statistiques du CGPM (limites indiquées dans les Bulletins statistiques du CGPM).

b/ Les chiffres indiqués pour le potentiel et pour les captures ne correspondent pas toujours exactement: par exemple, une partie des captures démersales figure dans la rubrique "Diverse"; le potentiel peut se référer aux stocks exploités uniquement par chalut, tandis que les mises à terre d'espèces démersales englobent les prises effectuées par toutes sortes d'engins, etc. C'est la raison pour laquelle, dans la plupart des zones, les captures déclarées d'espèces démersales sont bien inférieures au potentiel estimé même si la plupart des stocks sont pleinement exploités, voire surexploités.
Sources des estimations potentielles: Rapports de la 6ème et 7ème sessions du Groupe de travail CGPM sur l'évaluation des ressources et les statistiques halieutiques.

c/ Source des statistiques de captures par secteur: Bulletin statistique N° 5 du CGPM, FAO - 1984; les chiffres portant sur la période 1965-69 n'ont pas encore été révisés.

d/ Divers: diadromes plus pêcheries maritimes non étudiés par ailleurs.

e/ 1983 - Statistiques de capture non disponibles par secteur. Source: Annuaire statistique, Vol. 54.

ANNEX 1 (FAO Circ. Pêches, mars 85)

Table 3

Atlantique sud-est (Zone 47)

Stocks Espèces	Divisions CIPASE	Principaux pays (1983)	Potentiel estimé ('000 t)	Captures ('000 t) a/b/ 1965 -69	1970 -74	1975 -79	1980	1981	1982	1983	Etat d'exploitation
Merlus	1.1+1.2	URSS	10(?)	0	3	11	3	5	2	0	Sans doute modéré
	1.3+1.4	Espagne, URSS	340	241	414	284	103	101	194	222	Récemment surexploité
	1.5	Espagne, Afrique du Sud, Portugal	210	175	231	158	70	116	128	123	Récemment surexploité possibilités d'une certaine reprise
	1.6	Afrique du Sud	160	140	164	104	102	97	83	74	Récemment surexploité
	2.1+2.2	Afrique du Sud	65	22	55	53	48	35	47	41	Biomasse retrouvant le niveau du rendement moyen maximum
Brotule	Principalement 1.4+1.5+1.6 +2.1+2.2	Afrique du Sud, Espagne	20(?)	4	12	12	11	10	7	9	Légèrement surexploité
Denté aux gros yeux	1.2+1.3+1.4	Bulgarie, Roumanie	Quelques dizaines(?)	40	15	26	0	0	0	1	Pleinement exploité
Panga	2.1+2.2	Japon, Afrique du Sud	8	11	8	6	2	2	2	2	Pleinement exploité
Sardinelle	1.1+1.2+1.3	Angola, URSS	Quelques centaines(?)	75	92	125	205	160	181	154	Modérément exploité
Chinchards "cunene"	1.1+1.2	Angola, URSS		...	...	30	51	47	47	58	
	1.3+1.4+1.5	Angola, URSS	500* ou davantage avec recrutements récents élevés	142	159	180	297	95	58	52	Intensément exploité
Chinchards du Cap	1.3+1.4+1.5	Bulgarie, Pologne, Roumanie, Afrique du Sud, URSS		80	161	386	283	564	647	536	
	1.6+2.1+2.2	Japon, Afrique du	Variable =100(?)	32	32	52	17	17	16	38	Modérément à fortement exploité

ANNEX 1 (FAO Circ. Pêches, mars 85)

Stocks Espèces	Divisions CIPASE	Principaux pays (1983)	Potentiel estimé ('000 t)	Captures ('000 t) a/b/ 1965 -69	1970 -74	1975 -79	1980	1981	1982	1983	Etat d'exploitation
Pilchards	1.3+1.4+1.5	Pologne, URSS	Environ 600 avant épuisement. Actuellement quelques centaines	960	462	280	12	53	54	50	Très appauvri. Forte réduction de biomasse
	1.6	Afrique du Sud	Variable* autour de 100	111	68	91	50	46	35	61	Appauvri
Anchois	1.3+1.4+1.5	Afrique du Sud	> 250	91	211	212	190	199	83	184	Pleinement exploité
	1.6	Afrique du Sud	150-350	175	233	244	315	292	306	240	Pleinement exploité
Maquereaux espagnols	1.1+1.2+ 1.3+1.4	Espagne, URSS	Inconnu	0	3	78	12	48	34	50	Sans doute intensément exploité
	1.6	Afrique du Sud	Variable* environ 50(?)	81	58	23	2	3	4	5	Pleinement exploité ou appauvri
Total b/				**2706**	**2751**	**2751**	**2137**	**2350**	**2294**	**2302**	

Source: Les renseignements portant sur la période 1965-76 figurent dans la Circulaire des pêches FAO N° 710 mise à jour sur la base des rapports de réunions de la CIPASE tenues en décembre 1979.

* Le recrutement et, par conséquent, la biomasse et le potentiel ont varié de façon considérable depuis la mise en pêche.

a/ Données 1977-79: Bulletins de la CIPASE.

b/ Les chiffres concernant la production totale de l'ensemble de la zone: 1965-79. Annuaire statistique des pêches de la FAO Volume N° 48; 1980-83 Bulletins CIPASE.

c/ 1983, données provisoires.

Table 4

ANNEX 1 (FAO Circ. Pêches, mars 85)

Océan Indien ouest (Zone 51)

Stock	Principaux pays pêcheurs	Captures ('000 t) 1980	1981	1982	1983	Etat d'exploitation
Alose (Hilsa)	Inde, Pakistan	12	10	12	12	
Barramundi	Pakistan	1	2	3	3	
Poissons plats	Inde	12	11	16	18	
Scopélidé	Inde	115c	97	75	81	
Silures de mer	Inde, Pakistan, URSS	61	54	47	48	
Anolis	Inde, Egypte	11	10	8	9	
Murènes	Inde, Pakistan	18	13	11	12	
Divers serranidés	Yémen Dém., Oman, Sri Lanka, Inde	198	192	199	228	Stocks démersaux
Mérous	Italie ('80), Maurice, EAU	4	8	12	13	La plupart sont modérément à assez fortement exploités
Peliau chanos	Inde	4	4	8	9	
Lutjans	Pakistan, Etats insulaires	3	4	5	5	
Blanches	Inde	9	6	14	16	
Grondeurs	Pakistan, Golfe Persique	2	5	6	6	
Léthrinidés	Tanzanie, Maurice, EAU	10	13	13	22	
Maigres, verrues	Inde, Pakistan	114	112	107	114	
Rougets	Inde	6	5	7	7	
Pagres	Corée, URSS, Pakistan	8	10	13	13	
Capitaines	Inde, Pakistan	3	4	5	6	
Castagnoline Noire	Pakistan	3	3	4	4	
Stromates	Inde	39	35	29	31	
Carangues	Pakistan, Sri Lanka, Inde, EAU, URSS	43	48	54	47	Stocks de petits poissons pélagiques
Sardinelles	Inde, Pakistan, EAU, Yémen Dém.	227	346	272	290	
Anchois	Inde, EAU	40	37	49	51	Faiblement à modérément exploités
Chirocentres des Indes	Inde, Pakistan	19	18	18	19	
Clupeïdés (mélangés)	Sri Lanka, Inde	75	85	89	92	
Sabres	Inde, Pakistan	42	36	45	47	
Maquereau (Rastrelliger)	Inde, Sri Lanka, URSS, EAU	67	73	50	51	
Requins, raies	Inde, Pakistan, Sri Lanka	113	115	118	122	
Thazards	Inde, Pakistan, Sri Lanka	35	35	40	45	
Listaos	Maldives, Sri Lanka, France (1983)	37	36	36	49	
Albacore	Sri Lanka, Maldives, Japon, Corée	22	29	38	46	
Thon mignon	Iran, EAU	1	2	7	3	
Thonine	Pakistan	8	12	12	10	
Autres thons	Inde, Sri Lanka	29	25	28	30	
Thon obèse	Corée, Japon	16	22	28	25	
Germon	Non identifié	7	6	4	5	
Thon rouge du Sud	Japon	2	5	4	4	
Marlins	Japon, Corée, non identifié Pakistan	5	6	6	6	
Autres poissons non identifiés		65	36	62	75	
Poisson non identifié		319	228	221	242	
Total poisson		**1778**	**1798**	**1775**	**1915**	

ANNEX 2 (CARROZ et SAVINI, MARS 85)

Fisheries and other agreements
by African coastal countries

	Etats de l'Afrique de l'Ouest		Autres Etats	
	Accords inter-gouvernementaux *	Arrangements avec des entreprises **	Accords inter-gouvernementaux *	Arrangements avec des entreprises **
AFRIQUE DU SUD			Japon (1977) ; Israel (1978) ; Portugal (1979) ; Espagne (1979)	Entreprise espagnole
ANGOLA	Congo (1977) * ; Sao Tome-et-Principe (1980)	Entreprise cap-verdienne	Cuba (1976) ; URSS (1976, protocoles d'application adoptés annuellement) ; Espagne (1980 et 1983)	Groupement d'armateurs français
BENIN			France (1961 * et 1975) ; URSS (1977) *	Entreprise libyenne
CAMEROUN	Guinee equatoriale (1973 * et 1981) ; Gabon (1974) *			Entreprises americaine, danoise, espagnole et française
CAP-VERT	Senegal (1982)	Entreprise publique cap-verdienne avec Angola	Portugal (1980) ; Espagne (1981)	Armateurs espagnols ; entreprise française
CONGO	Gabon (1971 * et 1982) ; Angola (1977) *		France (1974)	Entreprise italienne ; armements espagnols et français
CÔTE-D'IVOIRE	Liberia (1972) ; Mauritanie (1974) * ; Senegal (1976 *, 1977 * et 1979)	Societé ivoirienne avec Mauritanie ; entreprises senegalaise et marocaines	France (1961)	Entreprises japonaise, française, italienne et espagnole
GABON	Congo (1971 * et 1982) ; Cameroun (1974) * ; Sao Tome-et-Principe (1975) *		France (1960 et 1974)	Crevettiers espagnols ; entreprises japonaises et françaises
GAMBIE	Senegal (1967 * et 1982)	Societés mixtes avec entreprise ghaneenne	URSS (1975) * ; Republique de Coree (1976)	Entreprise japonaise
GHANA	Mauritanie (1974) * ; Guinee (1978) *	Entreprise ghaneenne avec Gambie et Guinée	URSS (1963) *	Entreprises americaine, japonaise et nippo-americaine
GUINEE	Ghana (1978) * ; Guinée-Bissau (1980) ; Nigeria (1980)	Entreprise libérienne et ghaneenne	URSS (1966 *, 1981) ; Roumanie (1974) * ; Republique democratique allemande (1976) * ; Libye (1977 et 1978) ; Grece (1978, 1979) ; Espagne (1983 *, 1984) ; CEE (1983)	Entreprises americaine, coreenne, espagnole, grecque, italienne, japonaise, yougoslave
GUINEE-BISSAU	Senegal (1978 et 1982) ; Guinee (1980) *		Algérie (1975) ; URSS (1975, protocoles d'application adoptés annuellement) ; Republique democratique allemande (1976) * ; Libye (1976) ; France (1977) *, Portugal (1977) ; CEE (1980 prorogé deux fois en 1982 et amendé en 1983) ; Espagne (1984)	Armement italien ; entreprises sovietique, française, algerienne, japonaise, portugaise et libyenne

ANNEX 2 (CARROZ et SAVINI, MARS 85)

	Etats de l'Afrique de l'Ouest		Autres Etats	
	Accords inter-gouvernementaux *	Arrangements avec des entreprises **	Accords inter-gouvernementaux *	Arrangements avec des entreprises **
GUINEE EQUATORIALE	Cameroun (1973 * et 1981) ; Nigeria (1981)		URSS (1973) * ; Espagne (1979) ; CEE (1984)	Entreprises espagnole et sovietique
LIBERIA	Côte-d'Ivoire (1972)	Entreprise libérienne et Guinee ; entreprise de Sierra Leone		Entreprises coreenne, américaine et sierra-leonienne
MAROC	Mauritanie (1970, 1976, 1978, 1979) (statut incertain)	Entreprises de Sierra Leone et de Côte-d'Ivoire	Espagne (1969 *, 1974 *, 1977 *, 1979 *, 1980 *, 1981 *, 1982 *, 1983) ; France (1972) * ; Portugal (1976) ; URSS (1978)	Entreprises belge, coreenne, américaine, espagnole, italienne, française, portugaise et koweitienne
MAURITANIE	Côte-d'Ivoire (1974) * ; Ghana (1974) * ; Maroc (1970, 1976, 1978 et 1979) (statut incertain) ; Nigeria (1974 *, 1977 *, 1982) ; Senegal (1974, 1980, 1983)	Sociétés ivoirienne et nigerienne	Algérie (1973) ; Bulgarie (1971) * ; Republique de Coree (1981, 1983) ; Egypte (1964 *, 1967 *) ; Espagne (1964 *, 1977 *, 1978 *, 1982) ; France (1961 *, 1975 *, 1976 *) ; Grece (1966 *, 1969 *, 1974 *, 1977 *) Iraq (1979) ; Italie (1969) * ; Libye (1977, 1978 et protocoles d'application) ; Pologne (1975) * ; Portugal (1976 *, 1984) ; Roumanie (1974 * et 1981) ; URSS (1973 *, 1978 et 1980) ; Tunisie (1984)	Entreprises algérienne, americaine, bermudienne, bulgare, coreenne, egyptienne, espagnole, française, iraquienne, italienne, japonaise, koweitienne, libyenne, norvegienne, polonaise, panameenne, portugaise, roumaine, suédoise et sovietique
NIGERIA	Mauritanie (1974 *, 1977 *, 1982) ; Guinée equatoriale (1981) ; Guinée (1981) ; Senegal (1982)	Entreprise mauritanienne		Entreprises koweitienne, japonaise, americaine, norvegienne, polonaise et espagnole
SAO TOME-ET-PRINCIPE	Gabon (1975) * ; Angola (1980)		Portugal (1979) ; URSS (1981) ; CEE (1984)	
SENEGAL	Gambie (1967 * et 1982) ; Côte-d'Ivoire (1976 *, 1977 *, 1979) ; Guinée-Bissau (1978, 1982) ; Nigeria (1982) ; Cap-Vert (1982) ; Mauritanie (1974, 1980, 1983)	Entreprise ivoirienne	URSS (1965) * ; Espagne (1972 *, 1974 *, 1975 *, 1979 *, 1982) ; France (1960 *, 1974 *) ; Italie (1975) * ; Pologne (1976 *) ; CEE (1979 * prorogé et amende en 1982 * et 1983 *, 1984)	Entreprises française, italienne, polonaise, japonaise, americaine, suisse, belge, coreenne, sovietique, espagnole et danoise
SIERRA LEONE		Entreprise libérienne ; société sierra-léonienne avec Maroc	Yougoslavie (1975 *) ; URSS (1976 et protocoles d'application ultérieurs)	Entreprise japonaise
TOGO				Entreprise libyenne
ZAIRE				

ANNEX 3 (Josupeit 81 - FAO Fish Circ. - 314)

Relative Importance of Fish in Food Supply (compared with Total Protein Supply)

	Countries	Fish as % of total protein supply 1974-76	Fish as % of total animal protein supply 1974-76	Per Caput Consumption 1976 kg p.a.		Protein Per Caput Per Day Gram 1974-76	
				Fish	Meat	Fish	Meat
		1	2	3	4	5	6
	1. Japan	27.9	55.2	64.1	24.9	23.0	8.8
	2. Philippines	22.6	58.2	33.1	15.7	11.4	5.5
•	3. Ghana	20.2	65.9	27.6	9.4	9.5	4.1
•	4. Congo	18.4	61.3	24.9	9.2	7.3	3.9
	5. Hong Kong	18.1	31.2	50.5	72.3	14.7	25.3
•	6. Senegal	17.4	58.9	40.5	13.4	11.3	5.3
	7. Malaysia	17.0	47.3	34.7	13.4	9.5	4.7
•	8. Sierra Leone	16.6	71.8	26.8	5.3	7.4	2.0
	9. Yemen, People's Dem. Rep.	16.5	52.1	42.5	10.4	8.8	3.8
	10. Iceland	15.7	20.0	70.0	34.9	17.8	29.9
	11. Singapore	15.2	31.6	42.4	47.4	12.4	16.3
	12. Korea Rep.	14.8	70.6	47.2	7.2	10.8	2.5
	13. Viet Nam	14.0	56.3	21.8	13.1	7.2	4.3
•	14. Ivory Coast	13.5	49.3	21.1	15.1	7.3	6.3
	15. Thailand	13.2	52.8	22.6	11.4	6.6	4.1
	16. Denmark	12.5	19.2	30.0	70.8	11.3	22.4
	16a. Suriname	11.8	31.3	22.0	29.4	7.0	9.2
	17. Korea Dem. Rep.	11.7	68.4	35.4	8.3	9.1	2.8
	17a. Portugal	10.9	26.8	38.6	45.2	10.6	17.6
	18. Guyana	10.6	28.6	20.9	23.5	6.1	8.9
	19. Spain	10.3	20.5	35.9	60.1	9.8	21.2
•	20. Liberia	9.9	43.2	20.8	10.4	4.1	4.2
	21. Norway	9.8	15.3	26.5	52.5	8.7	18.4
	22. Sweden	9.5	14.4	32.3	62.7	8.7	20.4
	23. USSR	9.3	18.7	28.7	54.6	9.5	20.3
•	24. Mauritius	9.1	29.9	15.7	11.1	5.0	4.2
	25. Finland	8.9	13.8	26.1	57.9	8.2	20.1
	26. Cuba	8.6	17.5	20.4	35.7	6.0	13.6
•	27. Mauritania	8.5	17.5	20.9	25.7	5.5	10.0
	28. Kampuchea, Dem.	8.4	47.8	9.9	8.8	3.2	3.1
	29. Sri Lanka	8.4	54.7	10.9	2.7	3.5	0.8
	30. Indonesia	8.3	63.6	10.4	3.4	3.5	1.5
	31. Bangladesh	7.9	58.9	10.8	3.4	3.3	1.3
•	32. Uganda	7.7	35.5	14.8	11.8	4.3	5.0
	33. Burma	7.5	55.3	13.6	6.2	4.2	2.1
•	34. Chad	7.5	34.7	15.0	12.6	4.2	5.6
•	35. Tanzania	7.5	27.2	15.4	12.9	3.7	5.4
•	36. Togo	7.5	45.9	11.5	9.4	3.4	3.7
•	37. Benin	6.9	37.9	11.2	11.7	3.3	4.7
•	38. Peru	6.6	19.4	17.2	24.4	3.9	9.3
•	39. Cameroon	6.4	38.0	10.4	12.7	3.8	5.1
	40. Poland	6.4	11.8	20.6	70.3	7.0	23.3

ANNEX 3 (Josupeit 81 - FAO Fish Circ. - 314)

Countries	Fish as % of total protein supply 1974-76	Fish as % of total animal protein supply 1974-76	Per Caput Consumption 1976 kg/p.a.		Protein Per Caput Per Day/Gram 1974-76	
			Fish	Meat	Fish	Meat
• 41. Zambia	6.2	28.9	12.3	15.8	3.7	6.4
42. China	5.9	28.3	5.9	21.2	3.4	6.8
43. Germany, Dem. Rep.	5.9	10.2	18.7	82.9	5.8	29.0
• 44. Zaire	5.9	28.9	6.3	20.6	2.2	5.1
• 45. Nigeria	5.8	40.3	11.0	8.4	2.9	3.3
• 46. Malawi	5.4	57.6	12.7	5.3	3.8	1.8
• 47. Angola	5.3	23.2	6.7	13.0	2.3	5.2
48. Venezuela	5.3	10.6	10.5	44.1	3.3	15.3
49. UK	5.2	8.6	17.8	73.0	4.3	26.3
• 50. Mali	5.1	25.2	10.9	13.6	2.7	5.5
51. France	5.0	7.8	22.2	91.9	5.1	34.4
52. Trinidad & Tobago	4.9	11.7	10.1	33.6	3.2	12.7
53. Greece	4.6	10.0	15.7	59.4	4.8	22.2
54. Netherlands	4.6	7.3	13.1	72.9	4.1	24.9
55. Germany, Fed. Rep.	4.5	7.1	10.9	84.1	3.9	28.4
56. Belgium - Luxembourg	4.4	7.2	18.3	91.6	4.4	32.4
57. Brazil	4.4	11.5	7.2	33.4	2.7	12.6
58. Chile	4.2	11.3	15.8	37.9	3.1	13.5
59. Italy	4.1	9.0	12.8	62.8	4.0	23.9
60. Canada	4.0	6.2	18.2	101.3	4.0	36.4
• 61. Central African Rep.	3.8	17.4	5.8	17.4	1.6	7.2
62. Ecuador	3.8	9.8	10.4	19.3	1.8	7.3
63. Malta	3.8	7.9	13.3	56.7	3.4	19.6
• 64. South Africa	3.8	10.4	7.3	39.1	2.9	15.0
65. Australia	3.5	5.2	14.6	116.3	3.6	42.0
66. Bulgaria	3.5	9.3	12.0	57.0	3.6	20.6
67. USA	3.5	5.3	15.4	114.3	3.8	41.9
• 68. Madagascar	3.4	15.5	6.1	24.5	2.0	10.1
69. Dominican Rep.	3.3	9.5	6.2	18.1	1.4	6.5
70. Israel	3.3	6.3	11.1	65.2	3.4	26.0
71. Lao	3.3	19.4	6.2	17.4	1.8	5.7
• 72. Libya	3.0	9.3	7.5	31.6	2.2	12.4
73. Switzerland	3.0	4.7	10.4	77.7	2.6	26.9
74. Ireland	2.9	4.8	14.2	90.9	3.1	33.2
75. New Zealand	2.8	4.0	16.9	114.8	3.1	41.1
75a. Panama	2.7	6.1	5.1	40.3	1.8	17.0
• 76. Guinea	2.6	25.6	4.7	5.6	1.1	2.2
77. Czechoslovakia	2.4	4.1	7.9	85.3	2.3	30.6
78. Romania	2.4	6.3	5.7	55.2	2.4	20.1
79. Colombia	2.3	5.3	3.4	29.3	1.1	11.3
80. Costa Rica	2.3	5.2	4.5	21.3	1.3	9.1

ANNEX 3 (Josupeit 81 - FAO Fi h Circ. - 314)

	Countries	Fish as % of total protein supply 1974-76	Fish as % of total animal protein supply 1974-76	Per Caput Consumption 1976 kg/p.a.		Protein Per Caput Per Day/Gram 1974-76	
				Fish	Meat	Fish	Meat
	81. India	2.3	22.4	3.4	1.5	1.1	0.6
	82. Saudi Arabia	2.3	8.1	5.3	23.5	1.3	7.9
•	83. Tunisia	2.2	10.3	5.3	19.4	1.6	7.3
	84. Austria	2.0	3.4	7.6	79.1	1.8	27.1
	85. Nicaragua	2.0	5.0	4.3	28.6	1.4	11.9
•	86. Burundi	1.9	26.8	4.9	5.3	1.1	1.9
	87. Turkey	1.9	8.6	4.5	21.0	1.6	8.1
	88. Mexico	1.8	5.9	4.8	23.4	1.2	9.1
	89. Cyprus	1.7	4.2	6.3	63.9	1.6	22.0
•	90. Morocco	1.7	12.6	4.5	12.7	1.2	5.0
	91. Yemen, Arab Rep.	1.5	8.7	3.7	14.7	1.0	5.4
	92. Argentina	1.4	2.1	4.0	115.4	1.5	52.5
•	93. Egypt	1.4	9.5	4.4	13.1	1.0	5.0
	94. Lebanon	1.4	5.8	3.2	23.3	0.9	8.2
	95. Uruguay	1.4	2.3	5.0	111.9	1.0	38.7
	96. Hungary	1.3	2.8	5.0	77.8	1.2	27.3
	97. Iraq	1.3	6.5	2.8	14.9	0.8	5.2
•	98. Algeria	1.2	6.4	2.3	9.0	0.7	3.3
	99. Jordan	1.2	5.5	2.1	10.8	0.5	3.7
•	100. Kenya	1.1	5.0	2.8	18.7	0.7	7.6
•	101. Mozambique	1.1	9.3	1.9	7.8	0.4	2.9
	102. Yugoslavia	1.1	3.3	3.0	48.1	1.1	17.9
	103. El Salvador	0.9	3.1	2.1	12.7	0.5	5.4
	104. Bolivia	0.8	2.6	1.9	31.4	0.4	12.1
	105. Albania	0.7	2.6	1.7	24.9	0.5	9.3
	106. Haiti	0.7	4.7	1.8	10.8	0.3	4.2
•	107. Sudan	0.6	2.3	1.5	25.4	0.4	9.2
•	108. Niger	0.5	3.2	0.8	12.7	0.3	5.1
	109. Pakistan	0.5	1.9	1.4	9.1	0.3	3.4
	110. Guatemala	0.4	1.7	0.9	12.2	0.2	4.9
	111. Honduras	0.4	1.5	1.1	12.6	0.2	5.3
	112. Paraguay	0.4	1.1	1.0	62.8	0.3	22.7
	113. Syria	0.4	2.2	1.5	16.3	0.3	5.7
•	114. Ethiopia	0.3	1.8	0.8	19.5	0.2	7.9
•	115. Somalia	0.3	0.5	1.4	61.3	0.2	24.1
•	116. Upper Volta	0.3	4.1	1.0	8.0	0.2	3.2
•	117. Rwanda	0.2	3.7	0.3	5.3	0.1	2.0
	118. Iran	0.1	0.7	0.5	19.5	0.1	7.4

Sources: The first, second, fifth and sixth columns are taken from unpublished material, AT 2000, FAO, Rome.

The third and fourth column are taken from the Food Balance Sheets 1975-77, FAO, Rome.

ANNEX 4 (M.A. Robinson and A. Crispoldi - CECAF/TECH/84/55)

CECAF Imports of Fish and Fishery Products, 1980, by Country of Origin

'000 000 CFA

IMPORTERS \ EXPORTERS	MOROCCO	CANARY ISLANDS	MAURITANIA	SENEGAL	OTHER FRANC ZONE 1/	OTHER CECAF 2/	TOTAL CECAF	FRANCE	OTHER DEVELOPED	USSR	OTHER EASTERN EUROPE	OTHER DEVELOPING	NON-SPECIFIED	TOTAL
MOROCCO	-	...	...	...	...	...	...	11	2	...	...	...	...	13
CANARY ISLANDS	439	-	134	179	72	...	824	11	2,199	242	83	5,207	78	8,574
MAURITANIA	...	...	-	10	...	...	10	3	2	...	...	0	...	15
SENEGAL	192	...	...	-	31	1	224	3,264	84	0	5	0	...	3,577
CAPE VERDE	...	...	...	...	...	...	...	...	...	...	...	...	...	...
GAMBIA	...	95	...	...	...	...	95	0	25	...	...	0	...	120
GUINEA BISSAU	...	...	...	...	...	...	...	...	114	5	...	...	...	119
GUINEA CONAKRY	1	...	...	...	...	1	2	...	224	839	...	23	166	1,254
SIERRA LEONE	30	130	...	...	...	0	160	0	19	664	...	9	...	852
LIBERIA	20	140	...	...	0	2	162	5	928	276	...	76	...	1,447
IVORY COAST	349	400	114	6,006	...	9	6,878	3,658	2,077	2,191	1,436	90	30	16,360
GHANA	...	450	...	...	...	2	452	...	...	...	...	...	...	452
TOGO	3	...	...	28	10	1,380	1,421	38	158	1,552	...	2	96	3,267
BENIN	24	...	...	1	0	124	149	12	77	593	...	1	0	832
NIGERIA	1,658	4,500	...	11	6	3	6,180	0	76,313	16,801	10,987	2,800	2,349	115,430
CAMEROON	145	...	...	4	160	72	381	165	826	1,114	492	33	...	3,011
GABON	457	70	9	779	16	...	1,311	570	1,056	2	...	97	0	3,036
CONGO	282	...	76	575	2	16	951	38	1,336	677	19	133	11	3,165
TOTAL	3,580	5,785	333	7,593	299	1,610	19,200	7,775	85,440	24,956	13,022	8,471	2,640	161,504

1/ Ivory Coast, Togo, Benin. Cameroon, Gabon, Congo.

2/ Cape Verde, the Gambia, Guinea-Bissau, Guinea Conakry, Sierra Leone, Liberia, Ghana, Nigeria.

ANNEX 4 (M.A. Robinson and A. Crispoldi - CECAF/TECH/84/55)

: CECAF - Exports of Fish and Fishery Products by Destination

'000,000 CFA Francs

EXPORTERS \ IMPORTERS	IVORY COAST	TOGO	CONGO	OTHER FRANC ZONE 1/	NIGERIA	OTHER CECAF 2/	TOTAL CECAF	FRANCE	OTHER DEVELOPED	USSR	OTHER EASTERN EUROPE	OTHER DEVELOPING	NON-SPECIFIED	
MOROCCO	658	3	483	977	1,478	86	3,685	7,509	9,774	899	745	2,433	125	25,168
CANARY ISLANDS	353	7	...	88	4,320	940	5,708	7	22,609	...	735	3,802	...	33,061
MAURITANIA	...	...	...	0	...	...	0	601	1,428	...	1,572	5,475	...	9,076
SENEGAL	6,468	117	764	364	1	182	7,896	19,390	4,701	...	...	165	334	32,506
CAPE VERDE	...	...	...	...	...	47	47	7	400	...	...	...	0	454
GAMBIA	...	...	...	8	...	4	12		388	...	...	3	...	403
GUINEA BISSAU	...	...	...	4	...	0	4	...	834	...	...	...	...	838
GUINEA CONAKRY	...	...	...	...	...	...	...	...	...	...	...	...	...	...
SIERRA LEONE	0	...	...	...	...	1	1	24	222	...	...	...	...	247
LIBERIA	...	...	...	...	...	3	3	254	89	...	...	...	...	346
IVORY COAST	...	...	...	42	...	...	42	10,474	1,685	148	...	128	61	12,538
GHANA	...	...	...	...	...	...	...	...	1,223	...	...	...	...	1,223
TOGO	...	...	0	...	1	...	1	1	...	...	...	4	1	7
BENIN	...	1	...	...	2	0	3	2	...	...	...	...	1	6
NIGERIA	...	1,350	...	160	...	...	1,510	...	517	...	...	...	191	2,218
CAMEROON	...	...	...	...	100	...	100	200	293	...	...	182	...	775
GABON	...	...	...	21	...	...	21	112	...	...	...	...	...	133
CONGO														
TOTAL	7,479	1,478	1,247	1,664	5,902	1,263	19,033	38,581	44,363	1,047	3,050	12,212	715	118,999

1/ Senegal, Benin, Cameroon, Gabon.
2/ Morocco, Mauritania, Cape Verde, Gambia, Guinea Bissau, Guinea, Sierra Leone, Liberia, Ghana.

ANNEX 5 (Helga Josupeit FAO Circ. Pêches - 755)

Table AF. 2

Assistance to Fisheries in Africa at 1978 prices (millions of $US) and annual changes (%)

	1978	1979	1980	1981	1982	1983
ASSISTANCE TECHNIQUE	16 202	23 784	22 784	25 094	29 494	30 296
Variation annuelle (%)		+47	-4	+10	+18	+3
AIDE EN CAPITAL	35 017	44 302	45 260	60 720	72 795	84 921
Variation annuelle (%)		+26	+2	+34	+20	+17
Total:	51 219	68 086	68 044	85 814	102 289	115 217
Variation annuelle (%)		+33	-	+26	+19	+13

Table AF. 3

Subregional Distribution of Assistance for Fisheries
(millions of dollars US)

North-Central Atlantic (West Africa)

	1978	1979	1980	1981	1982	1983	1984[a/]
ASSISTANCE TECHNIQUE	6 441	7 711	8 516	10 016	8 554	10 275	7 770
Multilatérale	2 912	3 750	2 741	1 967	1 623	1 505	1 001
CEE	322	322	322	1 822	717	700	600
OPEP	100	100	100	100	0	0	0
Bilatérale	3 107	3 539	5 353	6 127	6 214	8 070	6 169
AIDE EN CAPITAL	17 888	27 667	29 203	25 035	26 446	25 896	16 095
Multilatérale	3 000	4 738	2 500	2 500	1 770	2 770	2 770
CEE	0	1 500	3 100	3 100	2 000	1 200	2 350
OPEP	2 400	2 400	1 799	1 799	1 799	1 900	1 900
Bilatérale	12 488	19 029	21 804	17 636	20 877	20 026	9 075
Total:	24 329	35 378	37 719	35 050	35 000	36 171	23 865

a/ Chiffres provisoires

ANNEX 5 (Helga Josupeit FAO Circ. Pêches - 755)

Table 10

Total assistance for different types of fisheries projects by types of donors (millions of dollars US)

	1978		1981		1982		1983	
	Multilat.	Bilat.	Multilat.	Bilat.	Multilat.	Bilat.	Multilat.	Bilat.
I. Recherche	6 318	15 078	17 477	39 792	9 556	31 217	8 578	27 210
Lutte contre la pollution	0	82	256	83	39	286	0	286
II. Pêches artisanales	17 276	3 940	24 257	13 689	38 531	19 065	46 388	19 145
Coopératives	3 550	12	1 994	118	2 119	215	250	203
Crédits	5 071	0	19 448	0	4 390	1 125	4 730	1 125
Motorisation	1 989	732	4 175	3 845	6 795	3 113	5 920	1 033
III. Pêches industrielles	15 557	22 073	26 128	12 089	41 712	34 388	48 134	31 478
IV. Ports	12 451	15 747	33 816	28 170	42 346	43 864	47 367	32 505
Navires	2 375	25 437	20 656	40 230	12 212	27 410	10 671	36 346
Chantiers de carénage	0	0	3 000	0	3 000	100	0	100
Construction de bateaux	657	6 141	1 427	5 100	41	1 400	36	500
Equipement	0	1 218	0	4 493	0	9 003	0	7 806
V. Commercialisation	307	1 735	910	3 342	1 072	5 356	1 010	4 332
Traitement	508	496	4 092	166	1 325	2 602	1 198	5 941
Fabriques de glace	349	7 247	109	9 575	1 249	10 842	1 240	9 840
Nutrition	0	0	222	0	15	0	0	0
VI. Aquaculture	11 891	4 901	38 553	17 725	49 182	22 080	55 765	19 559
VII. Conseils en matière d'économie et de planification	3 854	566	6 055	1 284	6 509	2 401	6 412	2 369
Suivi et surveillance	0	5 396	190	3 000	290	3 040	250	3 040
ZEE	80	0	1 329	0	2 043	3 575	1 100	3 575
Etudes de faisabilité	1 147	104	0	550	606	787	83	530
VIII. Formation	3 502	3 516	3 931	12 079	10 656	13 533	14 014	15 107